

RATINGS OF DIETETIC TECHNICIAN COMPETENCIES
BY TECHNICIANS AND SUPERVISORS

by

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Sincere appreciation is extended to each of the committee members. Dr. Marian Spears, the major advisor, provided guidance and professional expertise during my graduate studies, and in particular, this research project. She contributed many hours of time, and was instrumental in the refining of the final written work. Dr. Allene Vaden provided encouragement and insight in the statistical analyses of the data. Her untiring efforts cannot be underestimated. Gratitude also is extended to Dr. Gerald Bailey for his expertise in the area of competency based education.

Nedra Sylvis and Judy Mathis deserve a special thanks. Their technical services were instrumental to this project.

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INTRODUCTION

World War II caused increasing demands on hospital dietitians. Evidence was conclusive that there was a need for specifically trained persons to whom the dietitian could delegate routine work. The Volunteer Dietitians' Aide Program, among the first to be established for this purpose, was discontinued at the end of World War II. As early as 1942, some dietetics departments had been reorganized to provide supervisors who could relieve the dietitian of routine work. Subsequently, foodservice training materials were developed nationally but generally were directed toward the nonsupervisory employee rather than the supervisor who would assist the dietitian (1).

The role of the professional dietitian has expanded over the years (2, 3) and the expectation is that responsibilities will increase even more in the future (4). Originally, dietitians performed tasks such as routine supervision of patient foodservice. Even as early as 1951, the dietitians' role had enlarged to include responsibilities for an entire department, often without diminution of any of the lesser more routine tasks (2, 3).

Arkwright, the final speaker at a symposium during the 1971 annual meeting of The American Dietetic Association (ADA), described three levels of dietetic practitioners (5). The dietitian was discussed in terms of directing a foodservice or nutritional system. The dietetic technician was viewed as one who assists the dietitian, and the dietetic assistant was envisioned as working under the direction of a dietetic technician or dietitian (3, 5).

The Report of the Study Commission on Dietetics (4) emphasized the need to have enough dietetic technicians and assistants capable of performing the responsibilities delegated to them. The Commission also stressed the importance of defining tasks to be delegated to supportive personnel. In both an ADA position paper and the Commission report, the assertion has been made that adequate numbers of dietetic technicians and assistants should be trained to perform these tasks (3, 4).

The addition of a technician membership category to ADA was proposed and adopted during the third session of the House of Delegates at the 1972 Annual Meeting of The American Dietetic Association (6). The stipulation was made that the technician member must hold an associate degree from a two year collegiate program in either the field of nutritional care or foodservice management. In September of 1974, the technician category of membership was approved by ADA and became effective June 1, 1975 (7).

Literature discloses that dietetics is not the only profession that has discovered the need for supportive personnel such as technicians (8-13). For many associate degree students, the technician route may lead to the baccalaureate degree (13, 14). Such an upward progression is designated currently as career mobility. A major goal of the concept is to permit an individual to move up the career ladder as easily as possible with little loss of program integrity by the educational institution. Such a plan provides for the recognition of the students' previous education and experience (8, 13, 15).

The topic of career mobility has been of great interest in the last few years (9, 13). Appel et al. (16) reported that dietetic technician graduates are satisfied with the overall job but not with the promotional

opportunities. The objectives for dietetic technician programs generally have been established by educational institutions according to local needs without coordination with a four year dietetic program.

The Lumsden (17) study of 1975 indicated that dietitians were willing to delegate tasks to the dietetic technician. Beck (18) found that dietitians performing in both administrative and clinical roles were more willing to delegate task functions than those performing a single role. Rose et al. (19) discovered that generally dietetic technicians were trained adequately to perform most supportive tasks.

The objective of this research was to identify competencies relevant to dietetic practice that will provide input for design of a dietetic technician curriculum. A companion research project conducted by Hoadley (20) was devoted to determination of competencies dietitians would delegate willingly, thus providing data to assist in defining scope of practice of the technician and differentiating between roles of the dietitian and technician. Both of these research projects are components of the Career Laddering in Dietetic Education Grant Project 3242-02 of the University of Kansas Health Sciences and Hospital in collaboration with Kansas State University. The specific supportive objectives of this research were to:

- (1) analyze technicians' ratings of the importance and time consideration of various competencies,
- (2) analyze ratings of the immediate supervisors concerning the dietetic technician's performance and amount of supervision required for the various competencies,
- (3) identify the type of program the dietetic technicians consider

would provide the best preparatory background for the present position, and

(4) present recommendations concerning curriculum design.

The competency statements developed by Holland (21) and Howard and Schiller (22) constituted the basis for the research instruments of the present study. In the Holland study (21), based on opinions of directors of ADA approved dietetic technician programs, competencies with an emphasis in foodservice management were enumerated. Howard and Schiller (22) developed specific competencies for the entire career mobility program at Mercy College in Detroit with an emphasis in nutritional care. ADA has stipulated that dietetic technician programs will be accredited for specialization either in foodservice management or nutritional care (3, 23). Competency statements compatible with the two ADA approved programs (23) were chosen from these two papers for this research.

A list of operational definitions used in the research follows.

ADA Dietitian: a specialist who is educated for a profession and responsible for the nutritional care of individuals and groups (24).

Articulated curriculum: an educational program which provides for terminal levels without loss of upward educational progression (25).

Career ladder: provisions for planned career mobility.

Career mobility: upward movement from any one level to another in an occupational field (13).

Competency: the minimum knowledge, skills, affective behavior, and/or judgment which a person possesses on a set of criteria and level of expectation (26).

Dietetic assistant: a skilled person who has completed successfully

either a high school education or equivalent and a dietetic assistant program meeting the standards set by ADA (24).

Dietetic Technician: a technically skilled person who has completed successfully an associate degree program meeting the educational guidelines established by ADA (24).

External degree: a degree given to a non-resident student upon completion of a prescribed program (27).

Registered Dietitian: a technically skilled person who has completed successfully the registration examination and maintains continuing education requirements (24).

REVIEW OF LITERATURE

Manpower Shortages in Dietetics

Prall et al. (2), in 1951, reported an acute shortage of dietitians. She forewarned that the current rate of recruitment of dietitians was unlikely to increase to meet future demands. Van Horne (28) and Piper (29) drew the same conclusion several years later. Evidently, the number of dietitians had not increased to meet the demands for dietetic manpower.

Seventeen years later, Hubbard and Donaldson (30) reported that shortages of dietitians still existed. They predicted that an additional 1,200 dietitians would be needed annually between 1972 and 1977. A continued need for dietitians in increasing numbers was predicted also in The Report of the Study Commission on Dietetics (4). The statement was made that the educational system was capable of expanding to educate the needed additional dietitians. The Commission forecast that 1,500 dietitians would receive bachelor's degrees each year in the early 1970's. Educational problems for the 1970's were identified as the need to provide an additional 1,000 graduates annually to meet manpower needs and to retrain 5,000 to 10,000 current practitioners to update those currently practicing who do not have completely adequate education and training. The Commission noted that the estimates might be conservative. The Commission's findings were consistent with the predictions of Hubbard and Donaldson (30).

Piper (29) discussed some of the major factors accelerating the demand for dietetic personnel. One of the factors cited was an increase

in state and federal legislation requiring more health care for the aged, mothers and infants, children and youth, and persons with special diseases and conditions. The expansion rate of health care was cited as phenomenal. In addition, community health programs that are geared toward the general population, needs of the disadvantaged, and alleviating national hunger have contributed to a demand for qualified dietetic and nutrition personnel.

Piper (29) also explored the rationale for the development of the category of dietetic technician. She discussed how the explosion of scientific knowledge escalated the responsibilities of dietitians, requiring them to perform more theoretical, diagnostic, interpretive, creative, or administrative tasks. Routine functions and tasks could be delegated to persons with less technical skill but under the direction of the dietitian. The statement was made that present dietetic manpower was not adequate, and the shortage would not be solved in the foreseeable future.

Arkwright, at a symposium during the 1971 annual meeting of ADA (5), suggested that dietetic technicians should be utilized to assist the dietitian. The recommendation was voiced for technicians specialized in either the management or nutritional care aspect of dietetic practice. The 1974 revised Essentials of a Dietetic Technician Program (23) stipulated that the major goal of a dietetic technician program must be the development of competency to practice as a specialist in either foodservice management or nutritional care service.

The role of the dietitian has expanded gradually (2, 4). Dietitians should anticipate change and learn to delegate traditional tasks to less highly trained workers, such as dietetic technicians and assistants (3,

4, 28). The Study Commission of Dietetics (4) members predicted that social and political policy changes in public health institutions would create a need for more dietitians. The prediction was supported by the passage of federal legislation concerning Medicare requirements for skilled nursing facilities (31).

During 1974, regulations were issued requiring skilled nursing facilities participating in Medicare and Medicaid programs to employ foodservice supervisors who had graduated from a dietetic technician or assistant program. The program either must be approved by ADA or be state approved providing ninety or more hours of classroom instruction with experience as a supervisor in a health care institution with consultation from a dietitian (31).

The 1975 ADA position paper on the dietetic technician and assistant (3) cited support for the education, utilization, and involvement of technicians and assistants to aid dietitians in providing quality nutritional care services for health maintenance. Williams (32) asserted that the well trained dietetic technician and assistant teamed with the dietitian is the only way to achieve excellence, instead of mediocrity, in dietetics.

Manpower Shortages in Other Health Care Areas

Manpower shortages also have been recognized in other health related professions (8-12, 33). Occupations ranging from pharmacy, nursing, medicine, and laboratory technology have been cited as needing increases in manpower for a variety of reasons.

Franke and Sobel (11) discussed selected occupations with a short supply of personnel. Health care personnel included in this study were

licensed practical nurses (LPN's) and medical technologists. A survey of hospitals in the St. Louis and Chicago areas indicated a growing utilization of LPN's and medical technologists. Reasons cited for the increase of LPN's were a shortage of registered nurses, a desire by hospitals to improve the quality of patient care, and an attempt to lower costs by substituting LPN's for registered nurses. The major reason given for the increased utilization of medical technologists was the increasing technical complexity of diagnostic tests.

Berlow (8) discussed shortages of pharmacists, physicians, nurses, and x-ray and laboratory personnel. He insisted that manpower shortages can be alleviated without sacrificing high quality care; for example, lesser-trained personnel can perform some of the routine functions once done by highly trained and skilled pharmacists. Berlow further stated that a great need exists for the establishment of job standards and limitations for the technician.

Blayney et al. (33) described the unique method used at the University of Alabama in Birmingham (UAB) for relieving manpower shortages in allied health care. A Regional Technical Institute (RTI) for health occupation training was established with the UAB's Medical Center, and the result was designated as a linkage program. The Medical Center was chosen because it offered ideal clinical environments for training most allied health specialists. The operational concept of the linkage program required that students attend one year of prerequisite and non-technical courses at a local junior college and then transfer to the RTI for the second year of technical study and clinical experience. Evidence indicated that a centralized educational system results in financial savings, improved recruitment of students, and maximum return of

students to home areas after training in a large city. Results of the junior college/RTI linkage program have shown that more than 50 per cent of the graduates return home to work.

Rines (10) observed that World War II created shortages in the field of nursing. Community colleges became involved in nursing education, and a committee of selected members of the American Association of Junior Colleges and the National League for Nursing Education was formed to investigate the contribution of community colleges to nursing education. Rines discussed a Cooperative Research Project, which was instituted in 1952 at Teacher's College, Columbia University, New York. The purpose of this project was to develop and test semi-professional programs that would prepare graduates to qualify for the registered nurse's license, meet requirements for the associate degree, and function as beginning practitioners.

Bliss and Cohen (12) asserted that health manpower shortages, caused by maldistribution of physicians and an increase in specialization, have led to the training of physician's assistants (PA's) and nurse practitioners (NP's), categorized as "new health practitioners" (NHP's). The NHP performs tasks which traditionally have been within the purview of physicians. Programs to train PA's and NP's have proliferated over the last decade, and the type and duration of the programs vary widely. The primary emphasis of both programs is on the competency of graduates.

Schoeff et al. (9) discussed the use of medical laboratory technicians with an associate degree for relieving the medical technologist from performance of routine diagnostic testing. Such division of manpower would permit the medical technologist with a baccalaureate degree to devote more time to management, teaching, and research and development.

Delegation of Tasks to Supportive Personnel

Hughes (1) noted in 1951 that the increased call by the armed forces for dietitians and the expansion in defense mobilization created an urgent need for practicing dietitians to delegate duties to nonprofessional personnel. She stated that preparing a master list of duties that might be delegated seemed unwise and factors such as policy, size, and purpose of each institution, as well as education and ability of available personnel, make standardization of duties to be delegated impractical. Hughes also stated that most people tend to delegate the duties which they individually dislike and sound delegation involves an evaluation of duties that only the dietitian, because of education and professional training, is prepared to do.

Prall et al. (2), in the same year, studied dietitians on the job in seventeen hospitals. A ledger record was kept of dietitian's time spent in supervision, food purchasing, menu writing, employee matters, patient and doctor conferences, and miscellaneous activities. Activities in which the seventeen dietitians had delegated responsibilities to individuals of lesser training were analyzed. The recommendation was that dietitians analyze their jobs to determine rational delegation of tasks and thus enable the selection and training of assistants. The underlying assumption was that by delegating tasks to an assistant better dietetic services could be achieved.

Eleven years later, Schell and Bloetjes (34) conducted a study to determine the duties that hospital dietitians would be willing to delegate to nonprofessional personnel with some formal academic preparation but less than the educational background of dietitians. The study was undertaken because of the nationwide shortage of dietitians and the

general agreement that dietitians must delegate some duties. Questionnaires containing a list of eighty-six duties of dietitians in Veterans Administration (VA) hospitals were distributed to 130 randomly selected VA dietitians. Participants were requested to respond to the following two questions pertaining to each duty on the list: "Do you or other dietitians at your hospital perform this duty?" and "Would you be willing to delegate this duty to a dietetic assistant?" Willingness to delegate was indicated, provided the assistant had appropriate educational qualification. Schell and Bloetjes recommended the establishment of training requirements for these supportive personnel and the designation of a recognized title for the positions.

In 1972, the need for trained dietetic technicians and assistants to aid the dietitian was described in the Report of the Study Commission on Dietetics (4). The members of the Commission cited a rising demand for the services of dietitians and asserted that dietitians must learn to delegate some historic tasks and roles to less highly trained workers. The statement was made that there was an immediate need to define these tasks and ensure that enough dietetic technicians and assistants were prepared for the responsibilities delegated to them.

Kline and Dowling (35) were in agreement with the opinion that dietitians need to delegate duties to supportive personnel. The authors implied that delegation refers to more than a measure to alleviate manpower shortages and involved reevaluation of competencies and development of a career ladder. The new positions for which duties are to be delegated should not be considered as transitory, and the tasks delegated should not revert back to the dietitian if a manpower shortage no longer exists. An articulated career ladder needs to be developed by the

dietetic profession including levels of performance expected of an individual upon completion of training (35).

The study by Kline and Dowling (35) was designed to evaluate the influence of educational courses on the delegation of duties by dietitians to supportive personnel and the dietitians' perceptions of the role of supportive personnel. Results showed a lack of correlation between supportive personnel education and delegation of tasks by dietitians. Other findings revealed that, in theory, dietitians were in agreement concerning the appropriateness of specific duties for delegation. This consensus on the virtues of delegation, however, was not supported in practice.

Kline and Dowling (35) reported some dietitians were unwilling to relinquish duties long identified as appropriate for supportive personnel. The authors asserted that this may be due partially to inflexibility and insecurity of some dietitians. A more important reason was stated as a lack of understanding of the long-range objectives of delegation which extend past manpower shortages.

Powers (36) envisioned an increasing demand for persons who can assume more responsibility. He believed dietitians and supportive personnel should be mutually supportive rather than competitive. The entry of the dietetic technician would present a stimulating challenge to practitioners. Woodward (37) concurred and envisioned the technician and assistant, each with a unique role, as contributing to the dietetic team in furnishing nutritional care. She stressed that members of the dietetic team need to be aware of the importance and relevance of education and utilization of technicians and assistants.

Lumsden et al. (17) conducted a study to determine the degree to which dietitians would utilize dietetic technicians in the role proposed by ADA. Questionnaires were sent to both administrative and clinical dietitians who had graduated between 1968 and 1972. Results indicated no significant difference between the percentage of task functions that either administrative or clinical dietitians would be willing to delegate to dietetic technicians. The authors noted that dietitians performing both roles were willing to delegate a much higher percentage of clinical than administrative tasks. The statement was made that dietitians had reservations about delegating tasks that involved a relatively high level of administrative and decision-making skills.

A follow-up study to that of Lumsden was conducted by Beck (18) to ascertain whether dietitians' willingness to delegate duties had changed between 1973 and 1977. The Beck questionnaires were distributed to both dietitians and dietetic technicians in the 123 hospitals from which Lumsden received responses. Responses from dietetic technicians were included in the Beck study to determine whether or not the technicians were performing the task functions dietitians claimed were delegated to them. Findings showed that dietitians in both administrative and clinical roles (generalists) were more willing to delegate task functions than those performing only one of the two roles. They reported clinical dietitians were more willing to delegate task functions than those in administrative positions. Beck (18) found administrative dietitians less willing to delegate task functions than the administrative dietitians in the Lumsden (17) study. Beck (18) stated that, in general, dietetic technicians were trained adequately to perform many of the task functions included in the questionnaire. The consensus of dietitians

was that technicians need more training and experience before greater task delegation can be expected.

Rose et al. (19) determined the degree to which ADA dietetic technicians were performing tasks defined by ADA. ADA technician members were questioned concerning adequacy of training and whether a technician or dietitian should perform certain identified tasks. Results indicated technicians believed their training was adequate for most of the identified tasks.

Rose suggested that curricula be altered to reflect the needs of the practicing clinical and administrative dietetic technicians since discrepancies were noted between the technicians' academic training and the actual job needs. A majority of the respondents indicated that supervised practical work experience was the most valuable part of dietetic technician training. Clinical technicians cited inadequate training for communication with medical staff, medical terminology, individualization of care plans, charting, and group dynamics. Administrative technicians revealed that training in cost accounting, budgeting, and employee interviewing and disciplining were inadequate. The study concluded with the recommendation that further research be done to delineate and document roles for the technician and dietitian.

Dietetic Technician Education

Dietetic technicians have been educated to qualify as practitioners in the area of either nutritional care or foodservice management. Doherty (38) stated that the acquisition of professional characteristics (knowledge, attitudes, and skills) is the responsibility of the educational system. She also stated that each curriculum pattern is different

and should meet the needs of the community or geographic region in which the graduate will serve.

A 1975 position paper (3) stated that currently ADA establishes and maintains standards for educational programs for technicians and assistants, and acts as the review board for approval of such programs. This position paper cites the 1974 revised Essentials of Acceptable Programs (23) as the guideline for planning and developing approved programs. Dietitians serve educational programs as directors, faculty, supervisors of clinical experience, and members of advisory groups (3).

Woodward (37) described the great progress made in the education of assistants and technicians. One impact of educating these new members of the dietetic team is that traditional roles of the dietitian require restructuring and expanding. For instance, the rapid expansion of assistant and technician programs has caused a large increase in the number of dietitians who have become full-time educators. She proceeded to discuss the importance of accountability in education to ensure that program graduates are able to perform effectively on the job as members of the dietetic team.

The ADA Task Force on Competencies, Council on Educational Preparation (39), resulted as a response to the need for development of uniform competencies to assure excellence in education and practice. The Task Force members assessed the priorities for enhancing dietetic education and practice and made recommendations for assuring quality in dietetic education. Before a master plan for quality assurance can be developed, the Task Force concluded that data need to be obtained concerning societal trends; the philosophical basis of the profession analyzed; delineation of roles and the relationships of the association, practice,

and educational system outlined; future roles of dietetic practitioners assessed; and standards of education, practice, and continuing education validated.

Curriculum Essentials

Currently, educational programs for the dietetic technician allow for specialization in foodservice management or nutritional care. The technician is educated to develop competency for practice in either management or nutritional care and function as a member of the dietetic team under the supervision of a registered dietitian (23).

The director of a dietetic technician program must be a registered dietitian with a Master's degree in an appropriate field. The director must also have full-time academic status at the degree granting institution offering the program. The practitioner requirement for the director is a minimum of two years, full time, with six months related to the area of specialization. These requirements must be met in order for the program to be approved by ADA (23).

The ADA pattern for the dietetic technician curriculum consists of sixty-four college credit hours leading to an associate degree. A minimum of 450 hours of supervised field experience is required as part of the curriculum. The recommended patterns for an approved program in either foodservice management or nutritional care are very similar. The stated objectives in the Essentials of a Dietetic Technician program follow (23):

The major goal of a program must be the development of the dietetic technician's competency to practice in either foodservice management or nutrition care service. Each program through which a given student progresses must be directed toward the development of competency in only one of these two areas. Competency in both areas cannot be achieved by

a single individual through one associate degree program. The program should provide as much credit transferable to a senior college curriculum as possible once the major goal of practitioner competency at the technician level has been assured.

Need for Generalist Program

The Rose et al. study (19) termed technicians performing in both clinical and administrative roles "generalists." Seventeen of the eighty-two technician respondents in the study reported performing in a generalist capacity. The researchers recommended future studies on the efficacy of curricula in preparing for performance.

Research conducted by Hoadley (20) revealed that a majority of dietitians in the survey supported a technician program with a generalist emphasis. Advocates of the generalist program stated a need for technicians with skills in both management and nutrition care, especially in institutions with services of only a consultant dietitian.

Program Approach

Traditionally, programs for educating supportive personnel in the field of dietetics have been based on either in-house training, correspondence study, or conventional classroom instruction. The modern dietetic technician should be prepared to function on the health care team, use problem solving techniques and skills in the operation of the health care system, and apply the skills of a dietetic professional in preventive health care (40).

The external degree, a non-traditional program, was initiated at Pennsylvania State University (PSU) for nonresidence students desiring either a dietetic assistant or technician degree through a correspondence type mode (36). The program, described by Powers (36), consists of a

seminar practicum monitored by preceptors who are registered dietitians meeting PSU requirements and employed in clinical settings who have agreed to sponsor a student as a dietetic technician trainee.

A form of nontraditional study discussed by Powers (25) has been termed "University without Walls" or the "external degree." The external degree or correspondence study method brings college classes to students who are unable to come to a campus because of geography, family, or work commitments. Powers asserted that the average age of clientele of non-traditional study is higher than that of resident students.

Parks (27) reported approval of the PSU application for an independent study program (external degree) for the technician in 1976. She stressed the need to provide paraprofessional education to those without access to colleges and universities as one of the reasons for having an external degree program. Advantages of such a program were listed as flexibility and lower cost. Appropriate clinical settings readily accessible to the students, such as accredited health care facilities, provide the opportunity to observe and participate in the provision of quality food and service to meet patients' nutritional needs (27).

Career Laddering

Schiller (41) discussed career laddering in dietetics and articulation for the ladder at the 1979 Career Laddering in Dietetic Education Workshop in Topeka, Kansas. The career ladder was envisioned as a progression upward from the dietetic assistant certification to the associate degree dietetic technician, and finally to the baccalaureate degree and final qualifications as a dietitian for active ADA membership and eligibility for the registration examination.

The dietetic career ladder proposed by Schiller (41) begins at the dietetic assistant level and ends at the registration examination. She described several points of exit and entry on the ladder and discussed a variety of potential problems when moving from one level to the next. Articulation between the levels was described as one of the major concerns.

One problem of articulation was stated as determining the number of college credits required to transfer from one level of the career ladder to another. In order to determine how a student may move up the career ladder, the competencies required at the various levels must be defined.

Lenburg (13) asserted that a need exists for a career ladder and methods for mobility and articulation. Bullough and Bullough (42) concurred and insisted that some form of career laddering is both necessary and inevitable since many practitioners are unwilling to stay with a job that has no career advancement potential. Woodward (37) also agreed that the career laddering concept offers the opportunity to avoid dead end occupations.

Career Mobility

The concept of career mobility has been a major concern in the allied health field in recent years (9, 13, 15). Lenburg (13) discussed career mobility in terms of upward movement from one occupational level to another. She stated that many students do not have the economic resources or academic mind set for a four year program. Rather, these students are interested in learning a trade and practicing it. Many students, however, are intelligent and motivated toward a higher level

of practice and after working for a time become dissatisfied with career advancement and income potential.

The nursing field (13) has sought ways to promote career mobility by modifying the classical baccalaureate programs with a two plus two concept, which includes two years of college for an associate degree and an additional two years for the bachelors. Lenburg noted that many colleges are not prepared and some are not willing to respond to this specific educational need. She suggested that envisioning all college programs as offering only career mobility patterns would be unrealistic and saw a need for both the traditional baccalaureate as well as the two plus two career mobility option.

Schoeff et al. (9) stated that with the advent of intermediate levels of professionals career mobility programs can aid associate degree graduates in continuing their education to the baccalaureate level. Recognizing previous education, training, and clinical experience of the associate degree graduate has been identified as the key to a successful career mobility option (9, 37). A career mobility program developed at the University of Illinois allowed for the associate degree medical laboratory technician to complete a baccalaureate degree in medical technology with minimal duplication of effort and time lost. The career mobility option was accomplished by reorganizing the curriculum, having open articulation with medical laboratory technician programs, and using preadmission advising and validation examinations. For the associate degree graduate, the entry level to the junior year is the same as the point of exit from the community college (9).

A pilot career mobility program has been developed in conjunction with the coordinated undergraduate program (CUP) in dietetics at Mercy

College of Detroit (15). Incorporating the career mobility concept entailed developing a CUP for the junior and senior years based on the competencies achieved by the dietetic technician in the first two years. The entry level competencies for the junior year, therefore, are the exit level competencies for the sophomore dietetic technician graduate. Students unable to complete four years of college have a marketable skill at the end of the two year program. The two year graduate may choose to continue toward a baccalaureate degree or work a few years as a technician and then return to college (15).

A major problem in the pilot career mobility program at Mercy College was organizing the dietetic curriculum to preclude technicians having to repeat courses if they decide to pursue the baccalaureate degree (15). In this career mobility program, professional courses are distributed over four years rather than just the last two. The curriculum for the associate degree in dietetics begins in the freshman year and the student attains competency as a dietetic technician specializing in nutritional care. Schiller (15) suggested that further research be conducted to determine if dietitians can be educated better over a four year period than within the junior/senior years of the coordinated undergraduate program.

Appel et al. (16) reported that technicians were generally satisfied with the jobs in which they were employed but not with the promotional opportunities. The authors suggested that there is a great need for articulation between the associate and baccalaureate programs to facilitate career mobility. The ADA Position Paper (3) continued to support educational programs that encourage career mobility and advancement within the profession.

A career mobility option for community nutrition was developed at Central Arizona College (43). One of the five-year goals established in 1977 was to design a career ladder curriculum for community nutrition personnel. This program was developed in response to the passage of the National Health Planning and Resource Development Act of 1974 (44), which ranks as top priority the provision of primary care services in underserved, rural, or economically depressed areas. Arizona is largely a rural state and the nutrition community recognized the need for training and developing auxiliary manpower. Until 1976, there was no academic program in Arizona with a community nutrition emphasis. Prior to this time, those interested in the field of public health nutrition had to leave the state for academic training (43).

Competency Statements Developed for Dietetic Technicians

Competency statements were identified for the technician program at Pennsylvania State University. Clemen (40) stated that one objective of this program was to bring the technician to a competency level sufficient for functioning as a member of the health care team and complementing the dietitian. Defining competency statements for the technician required identification of competencies for the dietetic assistant and the dietitian. Subsequently, the knowledge base identified was used to plan a curriculum for developing these competencies.

Schiller (15) designed a curriculum based on career mobility at Mercy College of Detroit which required delineation of the functions of technicians and dietitians. Responsibilities and tasks were analyzed to determine which portion of each activity could be delegated to the

dietetic technician. Upon completion of the list of responsibilities for the technicians, essential competencies were determined for the technician and dietitian and became the basis for planning the total curriculum.

Howard and Schiller (22) reported that at Mercy College of Detroit the development of competency-based-education (CBE) for a career mobility program in dietetics was a five year project. The development of competency statements was the initial step in designing the program. The authors identified entry-level competencies for both the dietetic technician and the dietitian performing in a nutritional care role. The competencies were validated by practicing dietitians and dietetic educators and then compared with ADA's Plan IV (45). The authors contended that the competencies of the dietetic technician can be defined only in relation to those of the dietitian. The competencies were evaluated by an educational consultant with expertise in CBE (22).

Howard and Schiller (22) stated that the competency statements are needed in curriculum design for role differentiation between the functions of dietitians and technicians and to help practicing dietitians, other health professionals, and even the public to understand the differences between functions. The dietitian is educated to fill a variety of roles and the technician to perform tasks associated with each of the roles. Since the technician acts as an assistant to the dietitian, the competency statements compiled by Howard and Schiller are broadly derived from the roles of the practitioner.

Research conducted by Holland (21) identified entry-level competencies for dietetic technicians in foodservice management based on responses by dietetic technician educators. She stated that identification

of such competencies could be of use in curriculum and program development, evaluation, and in-service training.

In Holland's study, directors of twenty-four approved ADA dietetic technician programs, using three sequential Delphi forms, identified sixty-four competencies for technicians in foodservice management. The final list of thirty-nine competencies then was divided into ten top and twenty-nine second priority statements. The Delphi technique was used because it was considered an effective means for developing a priority list of entry-level competencies.

Presently a committee of the Hospital, Institution, and Educational Food Service Society (HIEFSS) is striving to develop competencies for both the assistant and the technician. The suggestion has been made that the resulting competencies might be used as guidelines for educators and supervisors of the assistant and technician (46).

METHODOLOGY

Conformance to the objectives of this study required sending questionnaires to dietetic technicians and their immediate supervisors. Dietetic technician members of The American Dietetic Association (ADA) and graduates from ADA approved technician programs were surveyed. Two questionnaires were sent to each person on the list, one of which was to be completed and returned by the technician and the other given to the immediate supervisor for completion and separate return.

Development of the Instruments

The foodservice management competencies compiled by Holland (21) and the nutritional care competencies developed by Howard and Schiller (22) for the career ladder program at Mercy College provided the basis for the instruments. The thirty-nine top and second priority competencies from the Holland research (Appendix A) and the forty-five developed by Howard and Schiller (Appendix B), totaling eighty-four statements, were adopted for the first draft instrument of this study.

Draft Instrument

Two faculty members and a graduate student at Kansas State University reviewed the eighty-four competency statements. Six statements from the Holland (21) study and one from Howard and Schiller (22) were removed from the list of eighty-four statements. The basis of elimination was the appropriateness of the redundant statements for the population of

this research. The six statements with the identifying numbers (Appendix A) eliminated from the Holland list of competencies were as follows.

- 1 Adheres to professional standards of behavior and attitude.
- 10 Assists dietitian with employee in-service classes which may include developing instructional materials, demonstrating use of standardized recipes, convenience food preparation.
- 24 Assists with cost control by compiling an accurate meal census, determining recipe and portion costs and preparing schedules.
- 49 Delegates duties to competent individuals.
- 58 Demonstrates personal characteristics which mark leadership ability among co-workers and gains the confidence of co-workers, subordinates and superiors.
- 124 Maintains food production systems by supervision of specific units of production.

The one redundant statement with the identifying number (Appendix B) retained from the Howard and Schiller report on curriculum development for career ladderling was:

- 0603 Communicates in appropriate written formats with co-workers, lay individuals, and groups.

The resulting seventy-seven competency statements were arranged randomly using a computer-generated list of random numbers to avoid grouping by specialization and to preclude participants recognizing and answering only those blocks of statements pertaining to their own positions. The competency statements were identical in the questionnaires for the technicians and their supervisors, but the rating scales were different.

Technician Questionnaire

The dietetic technician questionnaire consisted of two parts. Part I pertained to demographic information, and Part II consisted of

seventy-seven competency statements to be rated by the technician for importance and time consideration.

Part I. The questions of Part I of the draft instrument pertained to demographic data concerning the respondents employing institution and data on career ladderling. More specifically, respondents were asked to reply to questions concerning whether employed or not, length of time since employment if unemployed, title of present or last position, type of institution at which employed and size if in health care, and type of program from which an academic degree had been received. Other requested information included years employed as a dietetic technician member of ADA, number of dietetic technicians on staff at the employing institution, and year of birth of the respondent. Also requested was size of community where employed, the type of technician program which would provide the best background for the present job responsibilities, and whether the respondent had been a dietetic assistant before becoming a dietetic technician. In addition, technicians were asked to respond regarding plans for acquiring active membership in ADA and eligibility for becoming a registered dietitian (R.D.) and any problems that would hinder completing these plans. Each dietetic technician also was asked to give the name and address of the immediate supervisor for follow-up purposes concerning the supporting questionnaire of this research.

Part II. Seventy-seven competency statements arranged randomly were included for rating by the technician respondent on the importance (Scale A) and time consideration (Scale B) scales adapted from the Morales et al. (47) study. The technician was requested to indicate the value of each competency statement with respect to the present position on Scale A

and the frequency with which each competency is performed on Scale B. The two scales used for the first draft of the instrument were as follows:

Scale A Importance

- 1 = Essential
- 2 = Very Important
- 3 = Fairly Important
- 4 = Of Minor or No Importance

Scale B Time Consideration

- 1 = Constantly
- 2 = Frequently
- 3 = Occasionally
- 4 = Not at all.

Supervisor's Questionnaire

The questionnaire for the supervisor of the respondent technician consisted of two parts. A limited amount of background information was requested from the supervisors for Part I. The information concerned ADA membership, registration as a dietitian, and length of time supervising the technician. In Part II, the competency statements were identical to those on the dietetic technician questionnaire. The supervisor was asked to rate each competency according to the technician's performance and degree of supervision needed. The performance scale (Scale A) was adapted from that used by Hopkins et al. (48). The degree of supervision scale (Scale B) was adapted from the Loyd and Vaden study (49). The two scales for the draft instrument were as follows:

Scale A Performance on the Job

- 1 = Unsatisfactory
- 2 = Needs Improvement
- 3 = Satisfactory
- 4 = Above Average
- 5 = Superior
- 6 = Not a Responsibility

Scale B Degree of Supervision Needed

- 1 = Not expected of the entry-level technician
- 2 = Could perform with close supervision
- 3 = Could perform with general supervision
- 4 = Could perform with little or no supervision.

Validation of the Draft Instruments

The draft instruments for the technician and supervisors were printed on paper of contrasting colors to simplify separation during the validation procedure. The seven member validation panel, consisting of foodservice supervisors and registered dietitians, were requested to evaluate the background questions, competency statements, and rating scales on each of the questionnaires. They were instructed that answering the questions or actually rating the competency statements was not necessary. The panel critique was desired on the understandability of the directions, questions, competency statements, and rating scales. Following collection of the draft instruments from the validation panel, the comments and criticisms were reviewed by the original instrument design panel.

Final Research Instruments

Technician Questionnaire

Minor revisions were made on Part I of the dietetic technician questionnaire. A two part question (8a. and 8b.) was added regarding membership and certification through the Hospital, Institutional, Educational Food Service Society (HIEFSS). The directions for Part I were revised to improve interpretation, and the questions were reordered to separate Part I into two sections. The first set of questions for Part I were to be answered by the dietetic technician regardless of employment status. The second set of questions directed the technician to answer only if presently employed or employed within the last year.

Revisions for Part II were related specifically to the competency statements. Suggestions were made to reduce the number of competencies and reword others to reduce ambiguity. In the revision process, each competency was reviewed carefully, and the result was a simplification of the statements. After revision, the total number of competency statements was seventy-four. During the final review, "not a responsibility" was added to each of the rating scales. The final scales were as follows:

Scale A Importance

- 1 = Essential
- 2 = Very Important
- 3 = Fairly Important
- 4 = Of Minor or No Importance
- 5 = Not a Responsibility

Scale B Time Consideration

- 1 = Constantly
- 2 = Frequently
- 3 = Occasionally
- 4 = Not at all
- 5 = Not a responsibility

Supervisor's Questionnaire

The major revisions on the supervisor's questionnaire involved reversing Parts I and II. For the final research instrument, Part I consisted of the seventy-four competency statements and Part II the background information for the supervisor. The seventy-four competency statements were identical to those adopted for the dietetic technician questionnaire. The rating items on the final form were the same as those on the draft instrument but the order of Scale A was altered and "entry level" as a modifier of technician was omitted from item 1 on Scale B. The rating scales on the final instrument for the immediate supervisor were:

Scale A Performance on the Job

- 1 = Not a responsibility of the technician
- 2 = Unsatisfactory
- 3 = Needs improvement
- 4 = Satisfactory
- 5 = Above average
- 6 = Superior

Scale B Degree of Supervision Needed

- 1 = Not expected of a technician
- 2 = Could perform with close supervision
- 3 = Could perform with general supervision
- 4 = Could perform with little or no supervision.

Final Instruments

The questionnaire for the dietetic technician was printed on yellow paper and for the immediate supervisor on blue to distinguish between the two forms. Each of the instruments was printed as an 8½ × 11 inch eight page booklet with the Career Laddering in Dietetic Education logo on the cover page and the names of the three sponsoring organizations: The University of Kansas, Department of Dietetics and Nutrition; Kansas State University, Department of Dietetics, Restaurant and Institutional Management; and the Kansas Dietetic Association.

Initial Distribution of the Instruments

The 322 technician members identified by The American Dietetic Association (ADA) were sent two questionnaires; the yellow for the technician and the blue for the technician's immediate supervisor. Each pair of the questionnaires was stamped with an identical unique number to facilitate follow-up of respondents and allow for matching of data from the dietetic technician and the immediate supervisor.

Included with the two questionnaires was a cover letter for the technician and one for the supervisor (Appendix E). The cover letter to the technician contained a brief description of the purpose of the study, a request to complete the yellow questionnaire, an assurance of confidentiality of information, and a request to forward the blue

questionnaire to their immediate supervisor. The cover letter to the supervisor also stated the purpose and importance of the study and assurance of confidentiality of information. In addition, the supervisor's cover letter described the technician's involvement in the study and the statement that the two questionnaires would not be used for an evaluation of any person or employer.

The 322 paired questionnaires were mailed third class from The University of Kansas Health Sciences and Hospital on October 9, 1979. Questionnaires were to be returned to the Department of Dietetics, Restaurant and Institutional Management, Kansas State University. Self-addressed, stamped envelopes were provided for return of each of the questionnaires.

An early decision was to make a follow-up mailing to all technicians who failed to respond after approximately three weeks. Follow-ups to supervisors were to be made if the technician responded and provided a name and address.

Surprisingly, the early responses were not from dietetic technician members of ADA but from practicing registered dietitians who had not graduated from a dietetic technician program. Several responses were from dietitians who had been retired for many years. Since the questionnaires obviously had not reached the desired group, the decision was made to communicate with directors of dietetic technician programs in an effort to identify names of additional qualified technicians.

The directors of dietetic technician programs operational since 1976 were contacted to elicit support because these programs had produced several classes of dietetic technician graduates. Each program director was given some background information about the research and asked if

they would be willing to forward a list of names and addresses of the technician graduates.

Of the fifteen program directors selected, fourteen were reached. Twelve agreed to send lists of their graduates with the most recent addresses. Seven lists containing names and addresses of 211 technician graduates were received. The poor correlation between this list and the one received from ADA created the suspicion that the original list was erroneous.

The ADA central office was contacted to determine if the wrong or an incomplete list had been sent. The response after investigation was that a computer error had been made resulting in an incorrect list of dietetic technician members. Comparison of the two lists from ADA revealed that only thirty names on the first list were on the correct list.

Final Sample Size

The second and correct list sent by ADA contained names of 454 dietetic technician members. Added to the 211 names and addresses supplied by the program directors, the resultant sample consisted of 665 dietetic technician graduates. The ADA list and the program director's lists were cross-checked to avoid duplication of mailing. Only twelve of the 211 technicians on the program director's lists also were listed as ADA technician members. The final sample consisted of 211 from the program director's lists and 454 from the second ADA list, less twelve duplications for a total of 653 technicians qualified for the research.

Second Distribution of the Instruments

The sample of 653 technicians each received two questionnaires as had the 322 on the erroneous first ADA list. These questionnaires, however, were mailed from and returned to the Department of Dietetics, Restaurant and Institutional Management, Kansas State University by first class mail. The cover letters accompanying the questionnaires (Appendix F) were similar to those previously used but were printed on Kansas State University letterhead instead of the Career Laddering in Dietetic Education letterhead.

Follow-up Mailing

For this research, matched responses from technicians and their supervisors were desired. The cost of follow-up mailing and time limitations precluded mailing to all who had not responded. The follow-up mailing was to the member of the matched pairs who had not responded (i.e., technician or supervisor).

Letters (Appendix G) and the appropriate questionnaire were sent to forty supervisors and five dietetic technicians whose counterparts had responded. A self-addressed, stamped envelope also was enclosed with each questionnaire and cover letter.

Returns

The sample of 653 was reduced further by sixty-five paired questionnaires returned as undeliverable. The total apparently effective distribution, therefore, was 588. Prior to the follow-up, matched responses had been received from 117 technicians and supervisors, with 58 additional technician responses without accompanying supervisors' questionnaires. After the follow-up, an additional seventeen matched

responses were received. The final sample consisted of 134 matched questionnaires and an additional 58 technician responses, or a total of 192. The response rate for ADA dietetic technicians was much higher than the return from non-ADA dietetic technician members. There were 160 dietetic technician surveys returned from the ADA technician membership sample and 32 surveys returned from the non-ADA group surveyed. Possible reasons for the higher percentage return by ADA dietetic technician members could have been the technicians' membership in the professional association and a familiarity with research methods from reading the Journal of The American Dietetic Association.

Data Analysis

Data from the returned instruments were coded (Appendix H), key-punched on 80-column computer cards, and analyzed. Three computer cards were needed to code the data from the dietetic technician questionnaire and two for the supervisors' responses. Programs and routines of the Statistical Package for the Social Sciences (SPSS) were used for all data analysis (50). Frequency distributions were compiled for each demographic and biographical variable for Part I of the technicians' and Part II of the supervisors' survey instruments.

This research was concerned with the technicians' ratings of each of the seventy-four selected competencies for importance and time consideration, as well as the supervisors' ratings of the technician's performance and degree of supervision needed for each of the seventy-four competencies. Since position emphasis was hypothesized as a variable that would affect ratings, the analysis was designed to account for this potential effect. Other research (18, 19) has indicated that nutrition care and

foodservice management are not clear cut technician positions. Therefore, rather than ask for specialization, which possibly would reflect emphasis of educational program completed, technicians were asked to indicate the type of training that would provide the best background for their present positions. An item in Part I (item 17) of the technician questionnaire required the technician indicate whether nutrition care, foodservice management, or a program with equal emphasis on these areas would be most appropriate. Responses indicated 38 per cent selected a nutrition care background and 50.9 per cent a program with equal emphasis on foodservice management and nutrition care. A small number (11 per cent) selected a foodservice management emphasis. Beck (18) and Rose et al. (19) also have found technicians performing in positions requiring expertise in both the foodservice management and nutrition care areas.

Due to the small group indicating a foodservice management background ($N = 18$), further statistical analyses were limited to two groups: technicians selecting a nutrition care background ($N = 62$) and those selecting a program providing equal emphasis of foodservice management and nutrition care ($N = 83$). These groups are referred to as nutrition and general or generalist technicians respectively. Cross tabulations were used to compile frequency distributions for responses on each of the seventy-four competency statements for the nutrition and general technicians on each of the four scales of the two research instruments (importance and time consideration from the technician instrument, and performance and degree of supervision from the supervisory instruments).

A t-test for two independent samples was used to compare nutrition and general technicians' mean ratings on importance and time consideration for each of the seventy-four competency statements. The importance

scale was reversed to make 5 equal "essential," 4 "very important," 3 "fairly important," 2 "of minor or no importance," and 1 "not a responsibility." The time consideration codings also were reverse scored to make 5 equal "constantly," 4 "frequently," 3 "occasionally," 2 "not at all," and 1 "not a responsibility." This scoring system was devised to make the scores compatible with the concept being measured; thus, a higher score indicated greater importance or more time consideration.

A priority score was developed, similar to that used in the Morales et al. (51) study, as a means of analyzing the importance and time consideration scores. The priority score provided a method for considering both importance and time ratings simultaneously in a value judgment. A grid, adapted from the Morales research, was developed for assigning weighted scores (Table 1). Priority scores ranged from 0 to 5, with a higher score indicating higher priority.

The t-tests also were used to compare performance and degree of supervision ratings of the nutrition and general technicians supplied by the supervisor on each of the seventy-four competencies. The performance scale was recoded to eliminate response 1 "not a responsibility of the technician." The other five responses were recoded to make 5 equal "superior," 4 "above average," 3 "satisfactory," 2 "needs improvement," and 1 "unsatisfactory." Response 1 "not expected of a technician" was eliminated from the degree of supervision scale. The other three responses were recoded to make 3 equal "could perform with little or no supervision," 2 "could perform with general supervision," and 1 "could perform with close supervision."

Pearson's r was used to study relationships between supervisor's ratings of the technician's performance and degree of supervision needed

Table 1: Grid for assignment of priority scores¹

time consideration rating	importance ratings				
	1 essential	2 very important	3 fairly important	4 minor importance	5 not a respon- sibility
constantly	I	II	III	IV	V
frequently	I	II	III	IV	V
occasionally	I	II	IV	V	V
not at all	V	V	V	V	V
not a responsibility	VI	VI	VI	VI	VI

¹Priority score:

I = 5

II = 4

III = 3

IV = 2

V = 1

VI = 0

in each of the seventy-four competency statements. This technique also was used for analyzing matched pairs of the technician's importance and supervisor's performance ratings on each of the competencies.

RESULTS AND DISCUSSION

Characteristics of the Sample

Descriptive data on the sample of dietetic technicians (N = 188) are shown in Table 2. Over half of the respondents (57.5 per cent) had birth dates between 1950 and 1960, indicating that a large number of practicing technicians are from twenty to thirty years of age. A small percentage (13.1 per cent) had birth dates between 1944 and 1949 and about 19 per cent (19.1 per cent) between 1932 and 1943; 10.2 per cent were born in 1931 or earlier.

Over 40 per cent (42.2 per cent) had graduated from an ADA approved associate degree dietetic technician program in nutrition care, and 20.8 per cent graduated from an ADA approved foodservice management technician program. Only 16.7 per cent were graduates of an associate degree technician program not approved by ADA. A small percentage (3.6 per cent) held a B.S. degree, and 16.7 per cent responded to the "other" category including those reporting a degree from an ADA approved associate degree program with an emphasis in both nutrition care and foodservice management (15.1 per cent). This reporting is erroneous because ADA does not approve a dual emphasis associate degree technician program. All programs, however, are required to include experiences in both nutrition and foodservice management and perhaps these technicians perceived their programs as having a general emphasis.

Approximately one-fourth (25.7 per cent) of the sample had been employed as a technician for four or more years. The remaining

Table 2: Characteristics of sample

characteristic	N ¹	%
year of birth		
1931 or earlier	19	10.2
1932-1943	36	19.1
1944-1949	25	13.3
1950-1955	53	28.2
1956-1960	55	29.3
type of program from which degree was received		
ADA approved associate degree dietetic technician program in foodservice management	40	20.8
ADA approved associate degree dietetic technician program in nutrition care	81	42.2
Associate degree dietetic technician program (not ADA approved)	32	16.7
B.S. degree	7	3.6
other	32	16.7
years employed as a technician		
1 year	45	27.6
2 years	48	29.4
3 years	28	17.2
4 years or more	48	25.7
member of ADA		
yes	163	85.3
no	28	14.7
years as a technician member of ADA		
1 year	76	47.5
2 years	38	23.7
3 years	25	15.6
4 years or more	21	13.1
employed as dietetic assistant before becoming dietetic technician		
yes	64	33.9
no	125	66.1

¹N varies with non-responses.

Table 2: (cont.)

characteristic	N	%
presently a member of HIEFSS ²		
yes	29	15.5
no	158	84.5
a past member of HIEFSS		
yes	12	6.4
no	175	93.6
never a member of HIEFSS		
yes	146	78.1
no	41	21.9
certified through HIEFSS		
yes	29	15.7
no	156	84.3

²Hospital, Institution and Educational Food Service Society.

respondents had been employed for one (27.6 per cent), two (29.4 per cent), or three years (17.2 per cent).

A very high percentage (85.3 per cent) were ADA members. Almost half (47.5 per cent) had been technician members of ADA for only one year. Those reporting ADA technician membership for two years comprised 23.7 per cent of the sample and for three years, 15.6 per cent. The remainder (13.1 per cent) had been ADA technician members for four or more years.

Approximately one-third (33.9 per cent) of the respondents reported employment as a foodservice supervisor or dietetic assistant before becoming a dietetic technician. This percentage has implications for the career ladder in dietetics, indicating an appreciable number of dietetic assistants are interested in furthering their education and moving up the dietetic career ladder.

A low percentage (15.5 per cent) were currently members of the Hospital, Institution, and Educational Food Service Society (HIEFSS), only 6.4 per cent had been a HIEFSS member in the past, and most (78.1 per cent) had never been a member. Certification through HIEFSS, however, was reported by 15.7 per cent.

Characteristics of Present Position

Table 3 details the characteristics of the present positions in which technicians were employed at the time of the study. The majority of the respondents (52.1 per cent) were employed in a community hospital, 20.2 per cent in an intermediate or skilled nursing facility, 18.5 per cent in "other" areas, and 9.3 per cent in a university medical center. The 18.5 per cent employed in "other" areas were in a variety of

Table 3: Characteristics of present position

characteristic	N ¹	%
type of institution at which employed		
community hospital	85	52.1
university medical center	15	9.2
intermediate or skilled nursing home	33	20.2
other	30	18.5
size of health care facility		
100 beds and under	20	12.3
101 to 300 beds	60	37.0
301 to 500 beds	35	21.6
over 500 beds	31	19.1
employed at other type of facility	16	9.9
size of community in which employed		
big city (over 150,000)	69	43.1
medium city (between 25,000 and 150,000)	50	31.3
small city or rural community (under 25,000)	41	25.6
years employed in present position		
1 year	63	39.1
2 years	46	28.6
3 years	19	11.8
4 to 10 years	29	18.1
over 10 years	4	2.4
number of technicians on staff		
graduates of ADA approved technician program		
1 technician	69	59.0
2 technicians	21	17.9
3 to 5 technicians	20	17.1
6 to 10 technicians	7	6.1
graduates of technician program (not ADA approved)		
1 technician	20	51.3
2 technicians	10	25.6
3 to 4 technicians	5	12.9
5 or more technicians	4	10.3

¹N varies with non-responses.

Table 3: (cont.)

characteristic	N	%
graduates of other programs		
1 technician	17	44.7
2 technicians	4	10.5
3 technicians	6	15.8
4 technicians	11	28.9
program which would provide best background for present position		
foodservice management	18	11.0
nutrition care	62	38.0
program with equal emphasis of foodservice management and nutrition care	83	50.9

positions. Several reported employment in psychiatric centers, children's hospitals, or rehabilitation units. The remainder were employed in contract feeding, state hospital for the disabled, state corrections department, home health agency, long-term rehabilitation center, or developmental center.

Of the employing health care facilities, 37.0 per cent had 101 to 500 beds; and 19.1 per cent had over 500 beds. Only 12.3 per cent were employed in small facilities (i.e., 100 beds and under).

Over 40 per cent (43.1 per cent) were employed in a large city (150,000). Nearly one-third (31.1 per cent) worked in a medium-sized city (between 25,000 and 150,000) and 25.6 per cent in a small city (under 25,000) or rural community. The majority of respondents had been employed one year (39.1 per cent) or two years (28.6 per cent). Nearly one-fifth (18.1 per cent) reported employment in their present position for four to ten years; and the remainder had been employed for three years (11.8 per cent) or over ten years (2.4 per cent).

The number of technicians on staff at the employing institutions reported as graduates of an ADA approved technician program ranged from one to ten. The majority (59.0 per cent) was employed as the sole ADA qualified technician. Two (17.9 per cent) and three-to-five (17.1 per cent) were on staff at the employing institution. Only 6.1 per cent were on a staff of six to ten technicians. A much smaller number of respondents (N = 39) reported that technicians on the staff had graduated from non-ADA approved programs. Among these responses the majority (51.3 per cent) had one such technician on staff.

Technician respondents were asked to indicate the type of dietetic technician program emphasis that would prepare them best for present job

responsibilities. About half (50.9 per cent) stated that a program with equal emphasis on foodservice management and nutrition care would be best, and 38.0 per cent indicated a program in nutrition care and 11.0 per cent a program in foodservice management. Research by Hoadley et al. (23) indicated that nearly three-fourths of the dietitians surveyed in five Midwestern states (74.6 per cent) supported a generalist emphasis as the appropriate training for technicians who might be employed at their facilities.

Future Educational Plans

Table 4 details plans of technician respondents for meeting requirements of active membership in ADA and eligibility to become a registered dietitian (R.D.). About two-thirds of the technicians surveyed (65.1 per cent) had no plans for meeting ADA requirements at the present time.

Table 4: Plans for meeting requirements for active membership in ADA and eligibility to become a registered dietitian

plan	% ¹
have no plans at this time	65.1
now working on requirements	12.0
plan to complete coursework	24.0
have completed coursework and plan to apply for an internship	1.0
have completed coursework and have started or plan to start a three-year work experience program	1.6
have bachelor's degree and am enrolled or plan to enroll in a master's program	2.6

¹Total N = 192.

Nearly one-fourth (24.0 per cent) planned to complete coursework and 12.0 per cent were working on requirements. The remainder (5.2 per cent) had completed coursework and planned to qualify for ADA membership by an internship, three years of work experience, or a master's degree. Twenty per cent of the technicians surveyed by Appel et al. (16) indicated having taken courses leading to a bachelor's degree in dietetics.

The potential problems a technician might encounter in completing the requirements for active membership in ADA and eligibility to become an R.D. are outlined in Table 5. Of those who responded to the potential problem query "cannot afford to quit job," 76.0 per cent cited this as a deterrent. In response to "no program available in area" and "family responsibilities," slightly more than 50 per cent cited each of these as a problem. Powers (25) reported that a motivating force for designing the External Degree Program at Pennsylvania State University was to make higher education accessible for students who could not be on campus because of geography, family, or work commitments. Appel et al. (16) reported that technician graduates had a desire to move on to more responsible employment but had little opportunity to achieve a promotion through

Table 5: Potential problems in completing requirements for active ADA membership and eligibility to become an R.D.

potential problem	N	not a problem	somewhat a problem	major problem
		%	%	%
no program available in area	89	43.8	23.6	32.6
cannot afford to quit job	96	24.0	33.3	42.7
family responsibilities	90	47.8	23.3	28.9

on-the-job experience. The authors concluded that consideration should be given to provide stronger linkages between associate and baccalaureate programs to facilitate career mobility.

Technicians Ratings of Competencies

Technicians were asked to rate each of seventy-four selected competencies for importance and time consideration. The importance scale was used to rate the value that each competency had for the technician in the present employment position. The importance scale ranged from 1, essential, to 5, not a responsibility. The weights used for the data analysis were reverse coded and the final score was 5, essential; 4, very important; 3, fairly important; 2, of minor or no importance; and 1, not a responsibility.

The time consideration scale was used to indicate the frequency with which the technician performed each of the competencies. The scale ranged from 1, constantly, to 5, not a responsibility, and also was reverse scored for the data analysis. The final time consideration scale, therefore, was 5, constantly; 4, frequently; 3, occasionally; 2, not at all; and 1, not a responsibility.

A priority scale was developed to analyze the importance and time consideration scores simultaneously. A grid (Table 1, page 40) was adapted from Morales et al. (51) and weights were assigned for the priority scores ranging from 0, not a priority, to 5, very high priority. The priority grid was utilized to determine if competencies rated high on the importance scale were also those rated high for time consideration.

As stated in the Data Analysis section of the methodology, due to the small number of respondents (N = 18) who indicated foodservice

management provided the best background for present job positions, analysis and discussion for this group were eliminated. Two groups, therefore, provided the basis for analysis and discussion: technicians who indicated the most appropriate preparation for present positions was the nutrition care program; and those indicating a general program, providing equal emphasis on nutrition care and foodservice management, was the best program. These groups are referred to either as nutrition care technicians or general or generalist technicians. For the importance, time consideration, and priority ratings, the responses were categorized as follows: (a) statements equally rated by both the nutrition and generalist technicians (i.e., ratings were not significantly different); (b) statements rated significantly higher ($P \leq .05$) by nutrition technicians than by generalist technicians; and (c) statements rated significantly higher ($P \leq .05$) by generalists than by nutrition technicians. To analyze content and functional areas of competencies, a review panel arranged the statements into the following classifications:

<u>Classification</u>	<u>Competency Statement Numbers</u>
personal and professional development	12, 30, 32, 41, 53, 54, 61, 69
human skills	6, 15, 18, 19, 31, 60, 67, 71
teaching skills	2, 5, 7, 13, 14, 38, 44
record and information maintenance	3, 45, 56, 59, 64, 68, 72
nutritional care	17, 26, 33, 34
evaluation/assessment activities	8, 23, 24, 27, 37, 51, 52
technical expertise	1, 4, 9, 10, 20, 22, 25, 35, 39, 40, 41, 46, 47, 49, 50, 58, 62, 63, 66, 70, 74

problem solving	16, 29, 43, 48
supervision skills	11, 18, 21, 36, 55, 57, 65, 73

Competencies are discussed within the context of the above classifications.

Importance Ratings

The percentage distribution of technician responses on each of the competency statements for the importance scale are included in Table 18 (Appendix I). The percentage distributions for each competency statement were compiled for nutrition care and general technicians separately.

Equal Emphasis. Competency statements rated by technicians as having equal importance for both nutrition and generalist positions were ordered from highest to lowest mean ratings for the total group (Table 6). Ratings for thirty-one of the seventy-four competencies were not significantly different for the two technician groups. The importance scale ranged from 1, not a responsibility, to 5, essential. A higher score, therefore, indicated that greater importance was placed on a competency statement. Mean ratings ranged from 2.37 to 3.02, indicating the competencies were considered "fairly important." Many were organizing and planning-type activities.

Eight competencies could be categorized as personal and professional development functions. One item (no. 69), which related to the role of the dietetic technician, was rated more important than the other seven activities. The mean ratings for the competencies in the personal and professional development group were between 2.42 and 2.80.

Five responsibilities (nos. 56, 71, 19, 60, 67) were in the human skills area with "demonstrate empathy for clients and employees" (no. 6)

Table 6: Competency importance ratings by technicians: competencies with equal importance for nutrition and generalist technicians¹

item no.	competency statements	mean ² and s.d.
44	provide basic information to lay individuals and groups	3.02 ± 1.42
46	apply nutrition principles to menu planning	2.98 ± 1.63
27	assess educational needs of individuals and groups	2.92 ± 1.50
33	substantiate basic nutritional information	2.90 ± 1.39
68	collect information for planning a system of nutrition and dietetic services	2.81 ± 1.31
69	examine the role of the dietetic technician	2.80 ± 1.35
53	participate in professional activities	2.78 ± 1.20
54	am assertive in appropriate situations	2.71 ± 1.30
5	plan to meet educational needs of assigned individuals	2.67 ± 1.45
29	make on-the-job adjustments when unexpected situations arise	2.67 ± 1.57
10	distinguish between nutrition facts and fads	2.64 ± 1.30
6	demonstrate empathy for clients and employees	2.60 ± 1.68
61	evaluate own professional competence	2.60 ± 1.38
26	collect information for evaluating nutrition care	2.55 ± 1.41
71	demonstrate personal characteristics which mark leadership	2.54 ± 1.55

¹Nutrition = Technicians reporting emphasis in present position on nutrition care (N varies from 60 to 62).

General = Technicians reporting equal emphasis in present position on nutrition care and foodservice management (N varies from 75 to 79).

²Ordered from highest to lowest mean rating for total group. Scale = 1, not a responsibility to 5, essential.

Table 6: (cont.)

item no.	competency statements	mean and s.d.
14	use effective teaching strategies	2.53 $\pm$ 1.34
3	use a variety of reference materials	2.52 $\pm$ 1.18
19	demonstrate positive human relations skills	2.51 $\pm$ 1.41
60	cope with diverse value systems of physicians, co-workers, and patients	2.51 $\pm$ 1.31
17	provide dietetic counseling to assigned individuals	2.48 $\pm$ 1.51
51	assess effectiveness of nutritional and dietetic services	2.46 $\pm$ 1.41
8	consider ideas and opinions of others	2.45 $\pm$ 1.43
30	demonstrate self-confidence	2.44 $\pm$ 1.64
2	understand how people learn	2.43 $\pm$ 1.15
12	adhere to professional standards	2.43 $\pm$ 1.70
13	individualize instructional techniques	2.43 $\pm$ 1.34
42	participate in a program of self-development	2.43 $\pm$ 1.40
32	recognize own limitations	2.42 $\pm$ 1.50
23	report departmental status to the dietitian	2.41 $\pm$ 1.24
1	communicate in appropriate written formats	2.40 $\pm$ 1.29
67	am effective in oral communication	2.37 $\pm$ 1.40

having the highest mean. Means for this category were between 2.37 and 2.60. The one activity categorized as record and information maintenance was "collect information for planning a system of nutrition and dietetic services" (no. 68).

Three competencies were grouped in the nutrition care category, and "substantiate basic nutritional information" (no. 33) had the highest mean for this group. Also, three competencies were categorized as evaluation/assessment activities. Of these, "assess effectiveness of nutritional and dietetic services" (no. 51) had the highest mean rating. Three competencies were grouped in the technical expertise category: "apply nutrition principles to menu planning" (no. 46), "distinguish between nutrition facts and fads" (no. 10), and "communicate in appropriate written formats" (no. 1). The one item concerning problem-solving activities was "make on-the-job adjustments when unexpected situations arise" (no. 29).

Nutrition Technician Emphasis. The five competencies with significantly greater importance ($P \leq .05$) for nutrition technicians are detailed in Table 7. All five had particular meaning for patient care and were rated between 4.13 and 4.93, indicating these competencies were "very important" to "essential." Three functional activities were categorized as requiring technical expertise: "demonstrate knowledge of basic nutrition facts" (no. 41), "follow established procedures for nutritional and dietetic services" (no. 70), and "collect specific information for nutritional assessment" (no. 40). "Accept unique differences of individuals" (no. 31) was categorized as a human skill competency. The function, "follow procedures to implement nutritional care" (no. 34), was placed in the nutrition care category.

Table 7: Significant differences ($P \leq .05$) in competency importance ratings by technicians: competencies with greater importance for nutrition technicians

item no.	competency statements	position emphasis ¹		t value
		nutrition	general	
		mean ² s.d.	mean s.d.	
41	demonstrate knowledge of basic nutrition facts	4.93 ±0.25	4.44 ±0.75	5.50
31	accept unique differences of individuals	4.66 ±0.48	4.43 ±0.73	2.27
70	follow established procedures for nutritional and dietetic services	4.61 ±0.55	4.36 ±0.84	2.10
34	follow procedures to implement nutritional care	4.50 ±0.94	4.06 ±1.16	2.44
40	collect specific information for nutritional assessment	4.13 ±1.08	3.39 ±1.51	3.32

¹Nutrition = Technicians reporting emphasis in present position on nutrition care (N varies from 60 to 62).

General = Technicians reporting equal emphasis in present position on nutrition care and foodservice management (N varies from 75 to 79).

²Ordered by mean importance ratings of nutrition technicians.
Scale = 1, not a responsibility to 5, essential.

Although the importance ratings were significantly higher for nutrition technicians, general technicians also rated four of the five competencies in the "very important" to "essential" range. "Collect specific information for nutritional assessment" (no. 40) was rated by general technicians in the "fairly important" to "very important" range.

General Technician Emphasis. The competency statements rated by technicians as having greater importance ($P \leq .05$) in generalist positions are listed in Table 8. Means for the thirty-eight competencies in this group are ordered from highest to lowest based on ratings of the general technicians. The mean ratings were from 2.23 to 4.49, indicating the competencies were rated between "fairly important" and "essential." Eight of these competencies were rated 1.5 or lower by nutrition technicians indicating these functions were not generally their responsibility. These competencies were all concerned with technical expertise in food-service management. Most of the other thirty competencies were in the "minor" to "fairly important" range.

Seven competencies were given importance ratings of 4.00 or higher by general technicians. Four of these were grouped in the area of supervision, with "follow policies and procedures in personnel supervision" (no. 55) having the highest mean importance rating (4.49). "Delegate duties to other personnel" (no. 11) had the lowest mean for this group. The remaining three competencies rated in the "very important" range were in three separate classifications. These were "train employees to perform effectively" (no. 7) in teaching skills, "check trays for quality, portion sizes, and accuracy" (no. 9) in technical expertise, and "communicate with employees" (no. 15) in human skills.

Table 8: Significant differences ($P \leq .05$) in competency importance ratings by technicians: competencies with greater importance for generalist technicians

item no.	competency statements	position emphasis ¹		t value
		nutrition	general	
		mean s.d.	mean s.d.	
55	follow policies and procedures in personnel supervision	3.17 ±1.56	4.49 ±.85	5.95
7	train employees to perform effectively	2.90 ±1.58	4.37 ±.99	6.37
9	check trays for quality, portion sizes, and accuracy	3.43 ±1.80	4.33 ±1.19	3.37
15	communicate with employees	2.91 ±1.56	4.19 ±.97	5.61
36	direct the service and delivery of food	2.87 ±1.65	4.15 ±1.14	5.20
73	direct employees to follow nutritional care policies and procedures	3.10 ±1.55	4.13 ±1.07	4.45
11	delegate duties to other personnel	2.49 ±1.34	4.00 ±1.15	7.08
43	use problem-solving techniques	2.65 ±1.58	3.95 ±1.08	5.55
74	apply the techniques of work simplification	2.98 ±1.62	3.91 ±1.20	3.75
52	understand management system	2.61 ±1.42	3.88 ±1.15	5.71

¹Nutrition = Technicians reporting emphasis in present position on nutrition care (N varies from 60 to 62).

General = Technicians reporting equal emphasis in present position on nutrition care and foodservice management (N varies from 75 to 79).

²Ordered by mean importance ratings of generalist technicians. Scale = 1, not a responsibility to 5, essential.

Table 8: (cont.)

item no.	competency statements	position emphasis		t value
		nutrition	general	
		mean s.d.	mean s.d.	
16	recommend changes in foodservice and production systems	2.73 ±1.50	3.85 ±1.14	4.81
47	determine time, equipment, and personnel priorities	2.55 ±1.71	3.71 ±1.43	4.26
66	assist in updating job descriptions	2.10 ±1.35	3.70 ±1.39	6.84
18	supervise food production processes effectively	1.88 ±1.40	3.65 ±1.53	7.12
50	assist the dietitian with revising and implementing employee policies	2.87 ±1.34	3.60 ±1.40	3.12
21	improve standards of food preparation	1.85 ±1.39	3.53 ±1.46	6.93
49	exhibit a broad knowledge of food composition and preparation principles	2.90 ±1.46	3.53 ±1.40	2.54
4	estimate required quantity of food	1.70 ±1.22	3.44 ±1.60	7.38
35	check food deliveries against specifications and purchase orders	1.24 ±0.80	3.41 ±1.67	10.13
38	assist dietitian with employee classes	2.45 ±1.47	3.41 ±1.46	3.81
62	assist in the planning and service of special functions	2.24 ±1.31	3.38 ±1.43	4.86
63	prepare written work schedules	1.42 ±1.03	3.38 ±1.70	8.36
72	gather information regarding food usage and wastage	1.98 ±1.20	3.33 ±1.50	5.91
28	use techniques of leadership for small group interactions	2.44 ±1.40	3.26 ±1.29	3.54

Table 8: (cont.)

item no.	competency statements	position emphasis		t value
		nutrition	general	
		mean s.d.	mean s.d.	
57	direct the preparation of quantity food	1.29 ±0.75	3.26 ±1.70	9.09
56	compile inventories and other operational data	1.63 ±1.21	3.17 ±1.66	6.28
65	direct employees in use of standardized recipes	1.35 ±0.87	3.14 ±1.69	8.09
59	maintain records for evaluation of nutrition and dietetic services	2.29 ±1.50	3.04 ±1.57	2.87
48	recommend facility and equipment improvements	1.59 ±1.17	3.00 ±1.49	6.23
64	attend staff meetings and prepare appropriate records	1.71 ±1.28	2.96 ±1.70	4.94
45	compile information for monthly reports	1.76 ±1.35	2.95 ±1.60	4.76
20	determine recipe yields	1.21 ±0.63	2.94 ±1.56	8.91
58	assist with cost control	1.45 ±1.11	2.88 ±1.74	5.86
24	maintain a preventative maintenance program for all equipment	1.46 ±1.04	2.81 ±1.63	5.95
39	assist in development of specifications	1.29 ±0.88	2.81 ±1.66	6.95
22	use basic accounting procedures and practices	1.66 ±1.25	2.73 ±1.53	4.58
25	assist in maintaining a budget	1.26 ±0.87	2.65 ±1.68	6.30
37	maintain food sales and merchandising systems	1.05 ±0.38	2.23 ±1.57	6.42

Twenty-two of the thirty-eight items were rated between 3.00 and 3.99 by generalist technicians, indicating that a majority of the competencies in Table 8 were rated in the "fairly important" to "very important" range. "Use problem solving techniques," "recommend changes in foodservice and production systems," and "recommend facility and equipment improvements" (nos. 43, 16, and 48) were placed in the problem-solving classification. Nine competencies were in the technical expertise classification and "apply the techniques of work simplification" (no. 74) had the highest mean rating (3.91).

"Understand management system" (no. 52) was in the evaluation/assessment classification. "Use techniques of leadership" (no. 28) was classified as a human skill. "Assist dietitian with employee classes" (no. 38) was categorized in the teaching skills area.

Four competencies (nos. 18, 21, 57, and 65) were in the supervision classification with "supervise food production processes effectively" and "direct employees in the use of standardized recipes" having the highest (3.65) and lowest (3.14) means respectively. The remaining three items with ratings between 3.00 and 3.99 are in the area of record maintenance. "Gather information regarding food usage and wastage" (no. 72) was rated highest, but all three were rated between 3.00 and 3.35 indicating the competencies were "fairly important."

Nine competencies were rated between 2.20 and 3.00 by generalist technicians. Two items (nos. 64 and 45), "attend staff meetings and prepare appropriate records" and "compile information for monthly reports," were additional record maintenance functions. Five competencies were concerned with technical expertise in foodservice management.

"Determine recipe yields" (no. 20) was classified as an evaluation/assessment function.

A number of competencies from Table 8 reflect the technician functioning as an assistant to the dietitian, thus indicating the technician was not ultimately responsible for the activity. These findings reaffirm the statements in the ADA Essentials of a Dietetic Technician and the Dietetic Assistant (3) which assert that the technician should function as a member of the dietetic team under the supervision of a dietitian.

Time Consideration Ratings

Time consideration ratings are shown in Tables 9 to 11. The competencies are ordered from highest to lowest mean ratings; the scale equaled 1, "not a responsibility," to 5, "constantly." A higher score indicated that the technicians placed greater time consideration on those competencies; i.e., a competency is involved more frequently in their job positions. The competencies rated as having equal time consideration for both nutrition and generalist positions are listed in Table 9. Those competencies rated as requiring more frequent time consideration ($P \leq .05$) by nutrition technicians are listed in Table 10, and those rated highest by general technicians are in Table 11. The percentage distributions of technician responses for the time consideration scale was included in Table 19 (Appendix I) and compiled to reflect the technicians position emphasis (nutrition or general).

Equal Emphasis. Many of the competencies rated as having equal time consideration (Table 9) by both nutrition and generalist technician positions also were among those rated as having equal importance (Table 6)

Table 9: Competency time consideration ratings by technicians: competencies with equal emphasis in the nutrition and generalist technician positions¹

item no.	competency statements	mean ² and s.d.
46	apply nutrition principles to menu planning	3.16 ± 1.45
53	participate in professional activities	3.12 ± 1.11
59	maintain records for evaluation of nutrition and dietetic services	3.05 ± 1.41
27	assess educational needs of individuals and groups	3.04 ± 1.35
5	plan to meet educational needs of assigned individuals	3.00 ± 1.17
44	provide basic information to lay individuals and groups	3.00 ± 1.24
29	make on-the-job adjustments when unexpected situations arise	2.94 ± 1.33
54	am assertive in appropriate situations	2.94 ± 1.06
42	participate in a program of self-development	2.90 ± 1.37
71	demonstrate personal characteristics which mark leadership	2.89 ± 1.29
14	use effective teaching strategies	2.88 ± 1.26
51	assess effectiveness of nutritional and dietetic services	2.87 ± 1.26
3	use a variety of reference materials	2.86 ± 1.15
26	collect information for evaluating nutrition care	2.81 ± 1.28

¹Nutrition = Technicians reporting emphasis in present position on nutrition care (N varies from 59 to 62).

General = Technicians reporting equal emphasis in present position on nutrition care and foodservice management (N varies from 75 to 79).

²Ordered from highest to lowest mean rating for total group. Scale = 5, constantly to 1, not a responsibility.

Table 9: (cont.)

item no.	competency statements	mean and s.d.
33	substantiate basic nutritional information	2.81 $\pm$ 1.14
68	collect information for planning a system of nutrition and dietetic services	2.80 $\pm$ 1.31
1	communicate in appropriate written formats	2.79 $\pm$ 1.36
31	accept unique differences of individuals	2.79 $\pm$ 1.32
67	am effective in oral communication	2.79 $\pm$ 1.47
13	individualize instructional techniques	2.78 $\pm$ 1.39
30	demonstrate self-confidence	2.75 $\pm$ 1.50
10	distinguish between nutrition facts and fads	2.74 $\pm$ 1.16
19	demonstrate positive human relations skills	2.74 $\pm$ 1.44
23	report departmental status to the dietitian	2.74 $\pm$ 1.24
17	provide dietetic counseling to assigned individuals	2.73 $\pm$ 1.41
32	recognize own limitations	2.71 $\pm$ 1.35
6	demonstrate empathy for clients and employees	2.70 $\pm$ 1.47
61	evaluate own professional competence	2.67 $\pm$ 1.29
12	adhere to professional standards	2.60 $\pm$ 1.69
60	cope with diverse value systems of physicians, co-workers, and patients	2.57 $\pm$ 1.37

for the two types of positions. The means range from 2.57 to 3.16 indicating the competencies are generally considered "occasionally."

Three competencies were grouped as technical expertise (nos. 1, 10, and 46). "Apply nutritional principles to menu planning" (no. 46) was rated highest in this classification. Seven competencies were classified as related to personal and professional development. Of these, "participate in professional activities" (no. 53) was rated as requiring the most frequent time consideration.

Among the three items in the records maintenance group, "maintain records for evaluation of nutrition and dietetic services" (no. 59) was rated highest for time consideration in present positions of both types of technicians. Four items were concerned with teaching skills, and "plan to meet educational needs of assigned individual" (no. 5) was rated highest. "Make on-the-job adjustments when unexpected situations arise" (no. 29) was the only item considered a problem-solving competency by both groups and was rated as requiring "occasional" time.

Six competencies were human skills and item number 71, concerned with leadership characteristics, was rated highest. The three remaining competencies were classified as either evaluation/assessment or nutrition care.

Nutrition Technician Emphasis. The five competencies with significantly greater time consideration ($P \leq .05$) for nutrition technicians are in Table 10. Four of these competencies also were rated as having significantly greater importance for nutrition technicians (Table 7). The remaining item (no. 69), "examine the role of the dietetic technician" was rated as having equal importance for nutrition and general technicians.

Table 10: Significant differences ($P \leq .05$) in competency time consideration ratings by technicians: competencies with greater emphasis in nutrition technician positions

item no.	competency statements	position emphasis ¹		t value
		nutrition	general	
		mean ² s.d.	mean s.d.	
41	demonstrate knowledge of basic nutrition facts	4.75 ±0.57	4.36 ±0.79	3.37
70	follow established procedures for nutritional and dietetic services	4.56 ±0.62	4.30 ±0.83	2.12
34	follow procedures to implement nutritional care	4.39 ±1.00	3.91 ±1.91	2.57
40	collect specific information for nutritional assessment	3.84 ±1.45	3.24 ±1.47	2.70
69	examine the role of the dietetic technician	3.49 ±1.45	2.97 ±1.33	2.45

¹Nutrition = Technicians reporting emphasis in present position on nutrition care (N varies from 59 to 62).

General = Technicians reporting equal emphasis in present position on nutrition care and foodservice management (N varies from 75 to 79).

²Ordered by mean time consideration ratings of nutrition technicians. Scale = 5, constantly to 1, not a responsibility.

Four activities related directly to nutrition care were rated between 3.84 and 4.75 indicating these competencies generally were rated "frequently" or "constantly" on the time scale. Although the ratings were significantly higher for nutrition technicians, general technicians rated the five competencies in the "occasionally" to "frequently" range.

General Technician Emphasis. The competency statements rated by general technicians as having greater time consideration ($P \leq .05$) are listed in Table 11. The thirty-nine competencies in this group are ordered from highest to lowest mean ratings based on ratings of generalist technicians. Mean ratings ranged from 2.04 to 4.43 except item number 37, "maintain food sales and merchandising systems," which was rated as requiring "occasional" to "frequent" time consideration. The thirty-nine competencies are rated as having greater importance by general technicians (Table 8) with two exceptions (nos. 8 and 2), "consider ideas and options of others" and "understand how people learn." Both of these competencies were rated as having equal importance for general or nutrition technicians.

Six competencies were rated 4.00 or higher indicating "frequent" to "constant" time consideration. The highest rated item was "consider ideas and opinions of others" (no. 8). This item also was rated above 4.00 by nutrition technicians. "Follows policies and procedures in personnel supervision" (no. 55) and "direct the service and delivery of food" (no. 36) were classified as supervisory skills. "Check trays for quality, portion sizes, and accuracy" (no. 9) was in the technical expertise classification. The remaining two competencies (nos. 7 and 2), "train employees to perform effectively" and "understand how people learn," were concerned with teaching skills.

Table 11: Significant differences ($P < .05$) in competency time consideration ratings by technicians: competencies with greater emphasis in generalist technician positions

item no.	competency statements	position emphasis ¹		t value
		nutrition	general	
		mean s.d.	mean s.d.	
8	consider ideas and opinions of others	4.05 ±0.76	4.43 ±0.67	3.12
55	follows policies and procedures in personnel supervision	3.07 ±1.46	4.32 ±0.95	5.83
9	check trays for quality, portion sizes, and accuracy	3.26 ±1.68	4.29 ±1.18	4.12
36	direct the service and delivery of food	2.80 ±1.56	4.16 ±1.18	5.68
7	train employees to perform effectively	2.66 ±1.35	4.08 ±1.13	6.58
2	understand how people learn	3.63 ±1.37	4.04 ±0.70	2.14
11	delegate duties to other personnel	2.51 ±1.29	3.95 ±1.09	7.00
73	direct employees to follow nutritional care policies and procedures	2.84 ±1.42	3.95 ±1.05	5.12
15	communicate with employees	2.80 ±1.38	3.92 ±1.02	5.33
43	use problem-solving techniques	2.42 ±1.34	3.61 ±1.02	5.65

¹Nutrition = Technicians reporting emphasis in present position on nutrition care (N varies from 59 to 62).

General = Technicians reporting equal emphasis in present position on nutrition care and foodservice management (N varies from 75 to 79).

²Ordered by mean time consideration ratings of generalist technicians. Scale = 5, constantly to 1, not a responsibility.

Table 11: (cont.)

item no.	competency statements	position emphasis		t value
		nutrition	general	
		mean s.d.	mean s.d.	
74	apply the techniques of work simplification	2.87 ±1.53	3.61 ±1.16	3.16
47	determine time, equipment, and personnel priorities	2.61 ±1.70	3.53 ±1.43	3.41
16	recommend changes in foodservice and production systems	2.49 ±1.24	3.47 ±1.02	4.93
18	supervise food production processes effectively	1.77 ±1.20	3.47 ±1.50	7.43
52	understand management system	2.23 ±1.27	3.47 ±1.16	5.90
50	assist the dietitian with revising and implementing employee policies	2.70 ±1.18	3.32 ±1.31	2.89
4	estimate required quantity of food	1.72 ±1.32	3.25 ±1.64	6.13
49	exhibit a broad knowledge of food composition and preparation principles	2.73 ±1.36	3.24 ±1.22	2.26
66	assist in updating job descriptions	1.92 ±1.10	3.24 ±1.26	6.53
21	improve standards of food preparation	1.69 ±1.12	3.21 ±1.38	7.13
62	assist in the planning and service of special functions	2.23 ±1.24	3.17 ±1.33	4.27
35	check food deliveries against specifications and purchase orders	1.22 ±0.67	3.14 ±1.65	9.38
38	assist dietitian with employee classes	2.18 ±1.17	3.13 ±1.30	4.47
28	use techniques of leadership for small group interactions	2.37 ±1.23	3.09 ±1.21	3.43

Table 11: (cont.)

item no.	competency statements	position emphasis		t value
		nutrition	general	
		mean s.d.	mean s.d.	
63	prepare written work schedules	1.39 ±1.05	3.09 ±1.64	7.33
72	gather information regarding food usage and wastage	1.79 ±1.07	3.09 ±1.36	6.33
56	compile inventories and other operational data	1.46 ±0.92	3.04 ±1.59	7.28
65	direct employees in use of standardized recipes	1.25 ±0.67	2.88 ±1.55	8.36
45	compile information for monthly reports	1.75 ±1.34	2.82 ±1.55	4.31
57	direct the preparation of quantity food	1.21 ±0.63	2.79 ±1.59	7.91
48	recommend facility and equipment improvements	1.49 ±0.97	2.76 ±1.37	6.32
58	assist with cost control	1.38 ±0.93	2.64 ±1.68	5.59
20	determine recipe yields	1.18 ±0.62	2.60 ±1.40	8.03
22	use basic accounting procedures and practices	1.63 ±1.22	2.59 ±1.48	4.19
64	attend staff meetings and prepare appropriate records	1.62 ±1.17	2.57 ±1.56	4.08
24	maintain a preventative maintenance program for all equipment	1.49 ±1.09	2.55 ±1.54	4.71
39	assist in development of specifications	1.20 ±0.63	2.51 ±1.54	6.81

Table 11: (cont.)

item no.	competency statements	position emphasis		t value
		nutrition	general	
		mean s.d.	mean s.d.	
25	assist in maintaining a budget	1.12 ±0.53	2.45 ±1.65	6.69
37	maintain food sales and merchandising systems	1.05 ±0.39	2.04 ±1.48	5.65

Twenty-one items were rated between 3.00 and 3.99 indicating "occasional" to "frequent" time consideration. "Delegate duties to other personnel" (no. 11) was the competency with the highest time rating in this group. Nine items were classified as requiring technical expertise. "Apply the techniques of work simplification" (no. 74) had the highest mean (3.61) and "assist the dietitian with revising and implementing employee policies" (no. 50) was rated slightly lower. "Prepare written work schedules" (no. 63) was rated as requiring least frequent time consideration in this technical expertise category.

Twelve items were rated between 2.00 and 3.00 indicating consideration either "not at all" or "only on occasion." The lowest rated competency on the time consideration scale was "maintain food sales and merchandising systems" (no. 37).

Priority Ratings

Priority ratings are shown in Tables 12 to 14 and competencies are ordered from highest to lowest mean ratings. The scale was: 0 = no priority, 1 = very low priority, 2 = low priority, 3 = medium priority, 4 = high priority, and 5 = very high priority. The priority scores were devised as a method for considering importance and time consideration simultaneously. A higher score indicates greater priority was placed on those competencies; i.e., a competency was rated by technicians as important and requiring occasional to frequent time consideration. The competencies rated with equal priority for both nutrition and generalist positions are detailed in Table 12. Those with greater priority ($P \leq .05$) for nutrition positions are listed in Table 13, and those with greater priority in general technician positions are in Table 14. The percentage distribution for all priority ratings is detailed in Table 20 (Appendix I).

Percentage distributions were compiled for each competency statement for nutrition and general technicians separately.

Equal Emphasis. Competency statements rated with equal priority for both nutrition and generalist technician positions were ordered from highest to lowest mean ratings. Priority ratings for twenty-eight of the seventy-four competencies were not significantly different for the two groups. The means ranged between 3.77 and 4.85 indicating these competencies were rated as having "medium" to "very high" priority.

Seven of the twenty-eight items were grouped in the personal/professional development area. Two of the items (nos. 12 and 30), "adhere to professional standards" and "demonstrate self confidence," had the highest priority rating in Table 12. Four competencies were categorized as involving human skills (nos. 6, 60, 67, and 71). "Am effective in oral communication" was rated highest, but all four had means above 4.40 indicating a very high priority.

Another four items were in the technical expertise classification. "Follow established procedures for nutritional and dietetic services" (no. 70) had the highest mean rating and "distinguish between nutrition facts and fads" (no. 10) the lowest. Two classifications had one item each. These were "make on-the-job adjustments when unexpected situations arise" (no. 29) in the problem solving skills classification and "provide dietetic counseling to assigned individuals" (no. 17) in nutrition care-related activities. Items 8, 27, and 51 were classified in the evaluation/assessment category and "consider ideas and opinions of others" had the highest mean rating.

Table 12: Competency priority scores for technicians: competencies with equal priority in nutrition and generalist technician positions¹

item no.	competency statements	mean ² and s.d.
12	adhere to professional standards	4.85 ± 1.09
30	demonstrate self-confidence	4.79 ± 0.91
67	am effective in oral communication	4.74 ± 1.22
70	follow established procedures for nutritional and dietetic services	4.69 ± 1.23
6	demonstrate empathy for clients and employees	4.65 ± 1.09
46	apply nutrition principles to menu planning	4.65 ± 1.64
32	recognize own limitations	4.62 ± 1.14
19	demonstrate positive human relations skills	4.59 ± 1.26
29	make on-the-job adjustments when unexpected situations arise	4.56 ± 1.13
71	demonstrate personal characteristics which mark leadership	4.54 ± 1.33
60	cope with diverse value systems of physicians, co-workers, and patients	4.47 ± 1.52
17	provide dietetic counseling to assigned individuals	4.42 ± 1.34
8	consider ideas and opinions of others	4.36 ± 1.19
61	evaluate own professional competence	4.36 ± 1.51
14	use effective teaching strategies	4.35 ± 1.46

¹Nutrition = Technicians reporting emphasis in present position on nutrition care (N varies from 59 to 62).

General = Technicians reporting equal emphasis in present position on nutrition care and foodservice management (N varies from 75 to 79).

²Ordered from highest to lowest mean rating for total group.
Scale = 0, no priority to 5, very high priority.

Table 12: (cont.)

item no.	competency statements	mean and s.d.
23	report departmental status to the dietitian	4.34 $\pm$ 1.35
54	am assertive in appropriate situations	4.34 $\pm$ 1.39
68	collect information for planning a system of nutrition and dietetic services	4.33 $\pm$ 1.49
42	participate in a program of self-development	4.26 $\pm$ 1.39
13	individualize instruction techniques	4.24 $\pm$ 1.49
1	communicate in appropriate written formats	4.10 $\pm$ 1.41
51	assess effectiveness of nutritional and dietetic services	4.06 $\pm$ 1.71
44	provide basic information to lay individuals and groups	4.02 $\pm$ 1.64
3	use a variety of reference materials	4.01 $\pm$ 1.49
10	distinguish between nutrition facts and fads	3.99 $\pm$ 1.58
26	collect information for evaluating nutrition care	3.94 $\pm$ 1.76
27	assess educational needs of individuals and groups	3.88 $\pm$ 1.93
5	plan to meet educational needs of assigned individuals	3.84 $\pm$ 1.73
53	participate in professional activities	3.77 $\pm$ 1.91

Four items were concerned with teaching skills (nos. 5, 13, 14, and 44), and three of these were rated above 4.0 indicating a high priority. Two competencies (nos. 3 and 68) were records maintenance functions.

Nutrition Technician Emphasis. The six competencies with significantly greater priority ($P \leq .05$) in nutrition technician positions are listed in Table 13. Four of the six items had greater importance (refer to Table 7) and greater time consideration (refer to Table 10) for nutrition technician positions. The six items in Table 13 were rated between 3.56 and 4.93 indicating these competencies had "high priority" to "very high priority" for nutrition technicians. The ratings for generalists were from 2.68 to 4.32. Two items were rated as requiring technical expertise.

"Demonstrate knowledge of basic nutrition facts" (no. 41) was rated highest among the six items for both groups of technicians although the nutrition technicians rated it higher (4.93). The competency rated lowest for both groups was item 69, "examine the role of the dietetic technician." The generalists' rating placed the item in the "low" to "medium" priority range, whereas the nutrition group rating was in the "medium" to "high" range.

General Technician Emphasis. The competency statements rated with greater priority ($P \leq .05$) for general technician positions are detailed in Table 14. The thirty-nine competencies in this group are ordered from highest to lowest mean ratings. With two exceptions, all of the competencies also are included in both Tables 8 and 11 indicating greater importance and time consideration for general than for nutrition technicians. "Understand how people learn" (no. 2) was given a high priority

Table 13: Significant differences ($P \leq .05$) in competency priority scores by technicians: competencies with greater priority in nutrition technician positions

item no.	competency statements	position emphasis ¹		t value
		nutrition	general	
		mean ² s.d.	mean s.d.	
41	demonstrate knowledge of basic nutrition facts	4.93 ±0.25	4.32 ±1.00	5.12
31	accept unique differences of individuals	4.66 ±0.48	4.38 ±0.85	2.48
34	follow procedures to implement nutritional care	4.43 ±1.15	3.91 ±1.49	2.35
40	collect specific information for nutritional assessment	3.93 ±1.42	2.93 ±2.01	3.42
33	substantiate basic nutritional information	3.92 ±1.43	3.40 ±1.59	2.00
69	examine the role of the dietetic technician	3.56 ±1.60	2.68 ±1.94	2.89

¹Nutrition = Technicians reporting emphasis in present position on nutrition care (N varies from 59 to 62).

General = Technicians reporting equal emphasis in present position on nutrition care and foodservice management (N varies from 75 to 79).

²Ordered from highest to lowest mean rating for total group. Score = 1, no priority to 5, very high priority.

Table 14: Significant differences ($P \leq .05$) in competency priority scores by technicians: competencies with greater priority in generalist technician positions

item no.	competency statements	position emphasis ¹		t value
		nutrition	general	
		mean ² s.d.	mean s.d.	
55	follow policies and procedures in personnel supervision	2.85 ±1.99	4.35 ±1.19	5.19
9	check trays for quality, portion sizes, and accuracy	3.03 ±2.28	4.21 ±1.48	3.55
7	train employees to perform effectively	2.34 ±2.02	4.20 ±1.35	6.16
15	communicate with employees	2.34 ±2.01	4.04 ±1.29	5.73
36	direct the service and delivery of food	2.29 ±2.11	4.00 ±1.48	5.38
73	direct employees to follow nutritional care policies and procedures	2.56 ±2.02	4.00 ±1.35	4.79
2	understand how people learn	3.23 ±1.80	3.92 ±1.03	2.73
11	delegate duties to other personnel	1.80 ±1.73	3.79 ±1.51	7.12
43	use problem-solving techniques	2.08 ±2.01	3.70 ±1.48	5.23
74	apply the techniques of work simplification	2.52 ±2.09	3.64 ±1.60	3.45

¹Nutrition = Technicians reporting emphasis in present position on nutrition care (N varies from 59 to 62).

General = Technicians reporting equal emphasis in present position on nutrition care and foodservice management (N varies from 75 to 79).

²Ordered from highest to lowest mean rating for total group.
Scale = 0, no priority to 5, very high priority.

Table 14: (cont.)

item no.	competency statements	position emphasis		t value
		nutrition	general	
		mean s.d.	mean s.d.	
16	recommend changes in foodservice and production systems	2.08 ±1.90	3.54 ±1.57	4.80
52	understand management system	1.66 ±1.82	3.54 ±1.63	6.34
47	determine time, equipment, and personnel priorities	1.97 ±2.17	3.39 ±1.89	4.07
18	supervise food production processes effectively	1.07 ±1.74	3.31 ±1.99	7.03
66	assist in updating job descriptions	1.28 ±1.69	3.28 ±1.86	6.55
50	assist the dietitian with revising and implementing employee policies	2.23 ±1.74	3.13 ±1.85	2.90
21	improve standards of food preparation	0.97 ±1.69	3.09 ±1.93	6.90
49	exhibit a broad knowledge of food composition and preparation principles	2.34 ±1.93	3.07 ±1.86	2.20
38	assist dietitian with employee classes	1.82 ±1.90	2.95 ±1.92	3.43
4	estimate required quantity of food	0.77 ±1.50	2.93 ±2.12	7.08
62	assist in the planning and service of special functions	1.47 ±1.65	2.91 ±1.92	4.71
63	prepare written work schedules	0.47 ±1.27	2.88 ±2.22	7.96
72	gather information regarding food usage and wastage	0.97 ±1.43	2.88 ±1.95	6.70

Table 14: (cont.)

item no.	competency statements	position emphasis		t value
		nutrition	general	
		mean s.d.	mean s.d.	
35	check food deliveries against specifications and purchase orders	0.30 ±1.01	2.85 ±2.19	9.13
28	use techniques of leadership for small group interactions	1.75 ±1.78	2.70 ±1.77	3.08
56	compile inventories and other operational data	0.67 ±1.47	2.67 ±2.13	6.48
65	direct employees in use of standardized recipes	0.33 ±0.96	2.64 ±2.16	8.44
57	direct the preparation of quantity food	0.23 ±0.72	2.62 ±2.23	8.78
48	recommend facility and equipment improvements	0.69 ±1.44	2.38 ±1.97	5.79
45	compile information for monthly reports	0.90 ±1.70	2.34 ±2.08	4.47
20	determine recipe yields	0.20 ±0.70	2.31 ±2.05	8.47
59	maintain records for evaluation of nutrition and dietetic services	1.46 ±1.86	2.18 ±2.09	2.15
64	attend staff meetings and prepare appropriate records	0.75 ±1.51	2.16 ±2.17	4.46
58	assist with cost control	0.49 ±1.32	2.14 ±2.24	5.36
39	assist in development of specifications	0.28 ±0.94	2.08 ±2.14	6.63
22	use basic accounting procedures and practices	0.78 ±1.56	2.05 ±1.97	4.23

Table 14: (cont.)

item no.	competency statements	position emphasis		t value
		nutrition	general	
		mean s.d.	mean s.d.	
24	maintain a preventative maintenance program for all equipment	0.58 ±1.35	2.04 ±2.08	4.97
25	assist in maintaining a budget	0.14 ±0.63	1.92 ±2.17	6.91
37	maintain food sales and merchandising systems	0.07 ±0.52	1.36 ±1.95	5.59

and high time consideration rating but was not listed as having significantly greater importance for the generalists. "Maintain records for evaluation of nutrition and dietetic services" (no. 59) was not significant for time consideration.

Six competencies were rated 4.00 or higher for the generalists indicating "high priority" to "very high priority." Three of these were concerned with supervisory skills, one with technical expertise, one with teaching skills, and "communicate with employees" (no. 15) with human skills.

Twelve items had priority ratings for general technicians from 3.00 to 3.99 indicating "medium priority" to "high priority." "Understand how people learn" (no. 2) in the teaching skills classification had the highest mean rating. Three others were in the supervisory skill classification and two related to problem-solving skills. Five competencies were concerned with technical expertise, and "apply the techniques of work simplification" (no. 74) had the highest mean rating.

Twenty-one competencies had priority ratings under 3.00 for the generalists. All of the items except "maintain food sales and merchandising systems" (no. 37) had ratings between "low priority" and "medium priority." "Assist dietitian with employee classes" (no. 38), classified in teaching skills, was given highest priority. Nine competencies were in the technical expertise classification. "Estimate required quantity of food" (no. 4) had a "medium priority" rating and "assist in maintaining a budget" (no. 25) was rated as a "low priority." Five items related to record keeping skills. Only one of those with mean rating less than 3.0, "use techniques of leadership for small group interactions" (no. 28) was in the human skills category. Items 24 and 37 were

in the evaluation/assessment classification and "maintain a preventive maintenance program for all equipment" (no. 24) had the highest priority rating of the two.

All competencies except item number 9 in Table 14 had mean ratings below 3.0 for the nutrition technicians. Many had very low priority scores (mean ≤ 1.5) indicating the competencies had either no or very little priority. Probably this result was attributable to the foodservice management emphasis of many of the functions.

Supervisory Ratings of Technicians' Performance

Supervisory ratings of technicians' performance and degree of supervision needed are shown in Tables 15 to 17. Survey results indicated that 80.9 per cent of the responding supervisors were members of ADA and of these 75.6 per cent were registered dietitians.

Each supervisor was asked to rate the technician for performance and degree of supervision needed for each of seventy-four competencies. The rating scale for performance was: 5 = superior, 4 = above average, 3 = satisfactory, 2 = needs improvement, and 1 = unsatisfactory. The rating scale for degree of supervision was 3 = could perform with little or no supervision, 2 = could perform with general supervision, and 1 = could perform with close supervision. The response "not a responsibility" was eliminated from the computation scores.

Means and standard deviations are detailed in Tables 15 to 17. Also included are the percentages of supervisors indicating that the various competencies were beyond the performance expectations for a dietetic technician. The percentage distributions of supervisors' ratings on performance and degree of supervision needed are detailed in

Table 15: Supervisory ratings of technicians' performance and degree of supervision needed: competencies with equal priority for nutrition and generalist technician positions¹

item no.	competency statements	mean performance ratings		mean degree of supervision ratings		not expected of technician
		nutrition technician	general technician	nutrition technician	general technician	
		mean and s.d. ²		mean and s.d. ³		% ⁴
12	adhere to professional standards	4.00 ± 0.96	3.89 ± 1.01	2.73 ± 0.45	2.62 ± 0.58	--
30	demonstrate self-confidence	3.75 ± 0.92	3.88 ± 0.87	2.61 ± 0.53	2.70 ± 0.52	--
67	am effective in oral communication	3.58 ± 0.82	3.64 ± 1.03	2.37 ± 0.60	2.66 ± 0.48	--
70	follow established procedures for nutritional and dietetic services	3.76 ± 0.68	3.72 ± 0.90	2.57 ± 0.59	2.58 ± 0.56	7.3
6	demonstrate empathy for clients and employees	3.82 ± 0.82	3.78 ± 0.95	2.80 ± 0.46* ⁵	2.57 ± 0.64	--

¹Ordered by technicians' priority ratings (refer to Table 12); data excluded on competencies for which 50 per cent or more of the technicians in the position emphasis had no responsibility.

²Scale = 1, unsatisfactory to 5, superior; N varies from 25 to 49.

³Scale = 1, could perform with close supervision to 3, could perform with little or no supervision; N varies from 33 to 66.

⁴Per cent of supervisors who indicated the competency was not expected of a dietetic technician.

⁵* indicates significant difference in means of two groups ($P \leq .05$).

Table 15: (cont.)

item no.	competency statements	mean performance ratings		mean degree of supervision ratings		not expected of tech- nician
		nutrition technician	general technician	nutrition technician	general technician	
		mean and s.d.		mean and s.d.		%
46	apply nutrition principles to menu planning	3.85 ± 0.81	3.67 ± 1.00	2.60 ± 0.54	2.43 ± 0.65	22.5
32	recognize own limitations	3.59 ± 1.02	3.61 ± 0.93	2.52 ± 0.65	2.49 ± 0.60	0.9
19	demonstrate positive human relations skills	3.43 ± 0.98	3.54 ± 0.90	2.55 ± 0.61	2.54 ± 0.56	0.9
29	make on-the-job adjustments when unexpected situations arise	3.67 ± 0.75	3.72 ± 0.99	2.67 ± 0.52	2.62 ± 0.61	0.9
71	demonstrate personal characteristics which mark leadership	3.56 ± 0.92	3.74 ± 1.10	2.62 ± 0.61	2.57 ± 0.66	--
60	cope with diverse value systems of physicians, co-workers, and patients	3.42 ± 0.78	3.29 ± 0.97	2.26 ± 0.71	2.38 ± 0.66	9.2
17	provide dietetic counselling to assigned individuals	3.68 ± 0.88	3.71 ± 0.92	2.45 ± 0.70	2.48 ± 0.71	17.1
8	consider ideas and opinions of others	3.65 ± 0.85	3.82 ± 0.84	2.62 ± 0.53	2.65 ± 0.55	--
61	evaluate own professional competence	3.35 ± 0.72	3.42 ± 0.90	2.36 ± 0.66	2.48 ± 0.61	8.7

Table 15: (cont.)

item no.	competency statements	mean performance ratings		mean degree of supervision ratings		not expected of tech- nician
		nutrition technician	general technician	nutrition technician	general technician	
14	use effective teaching strategies	3.39 ± 1.02	3.25 ± 0.81	2.19 ± 0.74	2.55 ± 0.60	13.9
23	report departmental status to the dietitian	3.62 ± 0.79	3.82 ± 1.04	2.70 ± 0.46	2.66 ± 0.51	6.5
54	am assertive in appropriate situations	3.49 ± 0.98	3.52 ± 1.12	2.44 ± 0.58	2.60 ± 0.64	--
68	collect information for planning a system of nutrition and dietetic services	3.52 ± 0.63	3.59 ± 0.85	2.23 ± 0.65	2.31 ± 0.71	30.0
42	participate in a program of self-development	3.86 ± 1.02	3.76 ± 1.07	2.60 ± 0.58	1.57 ± 0.53	5.4
13	individualize instruction techniques	3.55 ± 0.98	3.43 ± 0.86	2.38 ± 0.71	2.33 ± 0.58	14.3
1	communicate in appropriate written formats	3.57 ± 0.71	3.47 ± 0.80	2.67 ± 0.47	2.54 ± 0.50	2.7
51	assess effectiveness of nutri- tional and dietetic services	3.57 ± 0.83	3.59 ± 0.87	2.31 ± 0.65	2.39 ± 0.65	23.9
44	provide basic information to lay individuals and groups	3.66 ± 0.78	3.74 ± 0.86	2.44 ± 0.59	2.46 ± 0.57	12.4

Table 15: (cont.)

item no.	competency statements	mean performance ratings		mean degree of supervision ratings		not expected of tech- nician
		nutrition technician	general technician	nutrition technician	general technician	
		mean and s.d.		mean and s.d.		%
3	use a variety of reference materials	3.58 ± 0.94	3.51 ± 0.89	2.54 ± 0.58	2.47 ± 0.65	3.6
10	distinguish between nutrition facts and fads	3.66 ± 0.87	3.50 ± 0.92	2.54 ± 0.62	2.39 ± 0.66	8.1
26	collect information for evaluating nutrition care	3.67 ± 0.78	3.42 ± 0.98	2.37 ± 0.65	2.37 ± 0.70	31.5
27	assess educational needs of individuals and groups	3.37 ± 1.07	3.24 ± 0.76	2.19 ± 0.78	2.24 ± 0.64	38.4
5	plan to meet educational needs of assigned individuals	3.56 ± 0.94	3.37 ± 0.73	2.24 ± 0.67	2.20 ± 0.72	20.5
53	participate in professional activities	3.19 ± 0.97	3.34 ± 0.90	2.60 ± 0.58	2.56 ± 0.57	4.9

Table 16: Supervisory ratings of technicians' performance and degree of supervision needed: competencies with greater priority in nutrition technician positions

item no.	competency statements ¹	mean performance ratings		mean degree of supervision ratings		not expected of technician
		nutrition technician	general technician	nutrition technician	general technician	
		mean and s.d. ²		mean and s.d. ³		% ⁴
41	demonstrate knowledge of basic nutrition facts	4.06 ± 0.78	3.89 ± 0.98	2.77 ± 0.42	2.61 ± 0.61	3.5
31	accept unique differences of individuals	3.49 ± 0.96	3.54 ± 0.98	2.53 ± 0.62	2.56 ± 0.59	--
34	follow procedures to implement nutritional care	3.87 ± 0.78	3.91 ± 0.82	2.57 ± 0.58	2.60 ± 0.59	8.0
40	collect specific information for nutritional assessment	3.60 ± 0.81	3.70 ± 0.95	2.39 ± 0.62	2.47 ± 0.65	17.9
33	substantiate basic nutritional information	3.69 ± 0.79	3.49 ± 0.94	2.50 ± 0.55	2.46 ± 0.64	8.3
69	examine the role of the dietetic technician	3.36 ± 1.01	3.48 ± 0.97	2.44 ± 0.63	2.47 ± 0.67	14.8

¹Ordered by technicians' priority ratings (refer to Table 13); data excluded on competencies for which 50 per cent or more of the technicians in the position emphasis had no responsibility.

²Scale = 1, unsatisfactory to 5, superior; N varies from 25 to 49.

³Scale = 1, could perform with close supervision to 3, could perform with little or no supervision; N varies from 33 to 66.

⁴Per cent of supervisors who indicated the competency was not expected of a dietetic technician.

Table 17: Supervisory ratings of technicians' performance and degree of supervision needed: competencies with greater priority in generalist technician positions¹

item no.	competency statements	mean performance ratings		mean degree of supervision ratings		not expected of technician % ⁴
		nutrition technician	general technician	nutrition technician	general technician	
		mean and s.d. ²		mean and s.d. ³		
55	follow policies and procedures in personnel supervision	3.46 ± 0.82	3.73 ± 0.97	2.39 ± 0.74	2.59 ± 0.59	9.9
9	check trays for quality, portion sizes, and accuracy	4.04 ± 0.74	3.87 ± 0.99	2.83 ± 0.46	2.78 ± 0.46	23.4
7	train employees to perform effectively	--	--	2.14 ± 0.70	2.40 ± 0.60	26.5
15	communicate with employees	3.11 ± 0.89	3.44 ± 1.00	2.23 ± 0.68	2.37 ± 0.66	27.0
36	direct the service and delivery of food	--	3.87 ± 0.92	--	2.64 ± 0.48	31.8

¹Ordered by technicians' priority ratings (refer to Table 14); data excluded on competencies for which 50 per cent or more of the technicians in the position emphasis had no responsibility.

²Scale = 1, unsatisfactory to 5, superior; N varies from 25 to 49.

³Scale = 1, could perform with close supervision to 3, could perform with little or no supervision; N varies from 33 to 66.

⁴Per cent of supervisors who indicated the competency was not expected of a dietetic technician.

Table 17: (cont.)

item no.	competency statements	mean performance ratings		mean degree of supervision ratings		not expected of tech- nician
		nutrition technician	general technician	nutrition technician	general technician	
		mean and s.d.		mean and s.d.		%
73	direct employees to follow nutritional care policies and procedures	3.41 ± 0.70	3.68 ± 0.93	2.54 ± 0.56	2.54 ± 0.57	19.1
2	understand how people learn	3.16 ± 0.83	3.12 ± 0.79	2.31 ± 0.60	2.21 ± 0.65	4.4
11	delegate duties to other personnel	3.30 ± 1.00	3.53 ± 0.86	2.25 ± 0.67	2.54 ± 0.57 ⁵	22.1
43	use problem-solving techniques	2.97 ± 0.79	3.46 ± 0.97*	2.09 ± 0.72	2.37 ± 0.64	20.4
74	apply the techniques of work simplification	3.12 ± 0.91	3.41 ± 1.04	2.26 ± 0.70	2.39 ± 0.62	19.5
16	recommend changes in foodservice and production systems	3.34 ± 0.86	3.64 ± 0.84	2.28 ± 0.65	2.51 ± 0.57	25.7
52	understand management system	3.07 ± 0.78	3.41 ± 1.00	2.00 ± 0.72	2.26 ± 0.69	28.4
47	determine time, equipment, and personnel priorities	3.45 ± 0.97	3.70 ± 0.97	2.29 ± 0.72	2.57 ± 0.57	19.3
18	supervise food production processes effectively	--	--	2.11 ± 0.83	2.57 ± 0.62*	43.6

⁵* indicates significant difference in means of two groups ($P < .05$).

Table 17: (cont.)

item no.	competency statements	mean performance ratings		mean degree of supervision ratings		not expected of tech- nician
		nutrition technician	general technician	nutrition technician	general technician	
		mean and s.d.		mean and s.d.		%
66	assist in updating job descriptions	--	--	3.56 ± 0.81	--	42.7
50	assist the dietitian with revising and implementing employee policies	3.38 ± 0.94	3.64 ± 0.72	2.19 ± 0.60	2.42 ± 0.57	28.3
21	improve standards of food preparation	--	--	3.51 ± 1.04	--	50.0
49	exhibit a broad knowledge of food composition and preparation principles	2.86 ± 0.90	3.25 ± 0.90*	2.21 ± 0.66	2.20 ± 0.67	13.0
38	assist dietitian with employee classes	3.52 ± 0.82	3.60 ± 0.87	2.26 ± 0.68	2.45 ± 0.65	29.2
62	assist in the planning and service of special functions	--	--	3.79 ± 0.83	--	45.9
63	prepare written work schedules	--	--	3.83 ± 0.88	--	55.0
72	gather information regarding food usage and wastage	--	--	3.45 ± 0.92	--	40.7

Table 17: (cont.)

item no.	competency statements	mean performance ratings		mean degree of supervision ratings		not expected of technician
		nutrition technician	general technician	nurtrition technician	general technician	
		mean and s.d.		mean and s.d.		%
28	use techniques of leadership for small group interactions	3.14 ± 0.93	3.27 ± 0.87	2.19 ± 0.65	2.36 ± 0.70	30.4
56	compile inventories and other operational data	--	--	--	2.53 ± 0.66*	54.5
57	direct the preparation of quantity food	--	--	--	2.42 ± 0.75	61.3
48	recommend facility and equipment improvements	--	3.60 ± 0.90			49.5
45	compile information for monthly reports	--	3.74 ± 1.00			46.0
59	maintain records for evaluation of nutrition and dietetic services	3.54 ± 0.79	--	2.24 ± 0.71	2.29 ± 0.75	37.6
4	estimate required quantity of food	--	3.46 ± 1.05	2.37 ± 0.62	2.55 ± 0.60	47.7

Tables 21 and 22 (Appendix I). Means in Tables 15 to 17 were ordered according to the technicians' priority ratings (refer to Tables 12 to 14). Table 15 includes those items rated with equal priority for nutrition and generalist positions. Competencies with greater priority in nutrition technician positions are detailed in Table 16, and those with greater priority in general technician positions are listed in Table 17.

Data were excluded on competencies for which 50 per cent or more of the technicians in the position emphasis had no responsibility. The discussion for Tables 15 to 17 on competencies judged by supervisors as "not expected of a technician" focuses on those rated by 40 per cent or more of the total group as beyond expectation.

Mean performance ratings by the supervisors of the technicians' performance on each of the competencies was between 3.19 and 4.00 indicating the technicians' performance was rated as "satisfactory" to "above average." All of the mean degree of supervision ratings were between 2, "could perform with general supervision," and 3, "could perform with little or no supervision," indicating that only general to limited supervision of the dietetic technicians was needed. Discussion is centered on those competencies for which the mean performance ratings were below 3.25 and above 3.75, and the degree of supervision ratings were less than 2.25 and greater than 2.75.

At least 60 per cent or more of the supervisors rated equal priority competencies (Table 15) as appropriate areas of responsibility for dietetic technicians working in either position emphasis. Over 80 per cent or more rated competencies with greater priority in nutrition technician positions (Table 16) as expected responsibilities. Table 17 contained eleven items rated by 40.0 per cent or more of the technicians'

supervisors as not expected of the technician. The eleven items are as follows:

<u>Competency Number</u>	<u>Competency Statements</u>	<u>%</u>
4	estimate required quantity of food	47.7
18	supervise food production processes effectively	43.6
21	improve standards of food preparation	50.0
45	compile information for monthly reports	46.0
48	recommend facility and equipment improvements	49.5
56	compile inventories and other operational data	54.5
57	direct the preparation of quantity food	61.3
62	assist in the planning and service of special functions	45.9
63	prepare written work schedules	55.0
66	assist in updating job descriptions	42.7
72	gather information regarding food usage and wastage	40.7

The remaining eighteen competencies were considered appropriate technician responsibilities by 60 per cent or more of the supervisors.

Ten of the seventy-four competencies were rated by two-thirds or more of the technicians' supervisors as beyond the responsibility of the technicians. Since so few supervisors believed these competencies were appropriate responsibilities of technicians, ratings of performance and degree of supervision were excluded from the table. All of these were in the third grouping of items, those rated as having significantly greater priority in general than in nutrition positions. Priority ratings, however, were in the low to medium range. The ten competency statements are as follows:

<u>Competency Number</u>	<u>Competency Statements</u>	<u>%</u>
20	determine recipe yields	73.9
22	use basic accounting procedures	72.6
24	maintain a preventative maintenance program	72.8
25	assist in maintaining a budget	73.7
35	check food deliveries against specifications and purchase orders	71.1
37	maintain food sales and merchandising systems	85.1
39	assist in the development of specifications	78.9
58	assist with cost control	71.9
64	attend staff meetings and prepare appropriate records	69.0
65	direct employees in the use of standardized recipes	71.2

The equal priority competencies in Table 15 with mean performance ratings of 3.25 or lower were "use effective teaching strategies" (no. 14), "assess educational needs of individuals and groups" (no. 27), and "participate in professional activities" (no. 53). There were no performance ratings of 3.25 or lower in Table 16. In Table 17, there were several performance ratings below 3.25, but the lowest was 2.86 which is close to the satisfactory mark. The low mean performance ratings for the nutrition technicians were "communicate with employees" (no. 15), "use problem-solving techniques" (no. 43), "apply the techniques of work simplification" (no. 74), "understand management system" (no. 52), and "use techniques of leadership for small group interactions" (no. 28). A low mean performance rating for both the nutrition and generalist technicians was on "exhibit a broad knowledge of food composition and preparation principles" (no. 49). In general, the consensus on most of the

items in Tables 15-17 was that technicians should be performing most of the competencies listed.

The equal priority competencies in Table 15 with mean performance ratings of 3.75 or higher were "follow established procedures for nutritional and dietetics services" (no. 70), "apply nutrition principles to menu planning" (no. 46), "participate in a program of self-development" (no. 42), "consider ideas and opinions of others" (no. 8), "adhere to professional standards" (no. 12), "demonstrate self-confidence" (no. 30), and "demonstrate empathy for clients and employees" (no. 6).

Although there were no significant differences in the performance ratings of both groups, the nutrition care technicians tended to have the highest performance scores.

The competencies with greater priority in nutrition technician positions (Table 16) with mean performance ratings of 3.75 or higher included "demonstrate knowledge of basic nutrition facts" (no. 41), and "follow procedures to implement nutritional care" (no. 34). The competencies with greater priority for generalist technician positions (Table 17) having the highest mean performance scores were "check trays for quality, portion sizes, and accuracy" (no. 9), "direct the service and delivery of food" (no. 36), "assist in the planning and service of special functions" (no. 62), and "prepare written work schedules" (no. 63).

Correlation coefficients between supervisory ratings of technicians' performance and degree of supervision needed are detailed in Table 23. All seventy-four of the competencies had a positive correlation coefficient and were significant at the $P \leq .001$ level. These data indicate that those technicians who were given higher performance ratings were considered to require less supervision.

Table 24 lists correlation coefficients between technicians' ratings of importance and supervisory ratings of technicians' performance. Correlation coefficients were significant and positive on sixty competency statements, indicating that those competencies rated as more important were the ones for which technician performance was rated higher by supervisors. Only one competency had a negative correlation, and ratings were unrelated on thirteen competencies.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

World War II caused increasing demands on hospital dietitians, thus creating a need for specifically trained personnel to whom the dietitians could delegate routine work. This need continues to exist and recommendations have been made that dietitians delegate some of their duties in order to perform at the level for which they were educated. Research has indicated dietitians are willing to delegate certain duties to trained dietetic technicians.

The dietetic technician and assistant positions were developed to alleviate the shortage of dietetic manpower and facilitate the provision of quality health care services. The dietitian is responsible for directing a foodservice or nutritional system with the technician assisting and the assistant working under the direction of a technician or dietitian.

Tasks to be delegated to technicians must be defined. Also, career ladderling should be considered to permit supportive personnel to achieve possible educational goals. Effective articulation would facilitate moving from the two year associate degree level to the four year baccalaureate degree. The career ladder in dietetics is viewed as the upward progression from the dietetic assistant certification to the associate degree dietetic technician and finally to the baccalaureate degree with final qualifications for eligibility to take the dietetic registration examination. To have a successful career ladderling program, definition of competencies for each level of the ladder is required.

The primary purpose of this study was to identify competencies relevant for technician practice that will provide input for design of a

dietetic technician curriculum. The foodservice management competency statements developed by Holland (21) and the nutrition care competencies by Howard and Schiller (22) were used as the base for the research instruments of the present study. Both of these sets of competencies had been developed by educators, but had not been validated by either practicing technicians or dietitians. Supportive objectives of this study were to (a) analyze technicians' ratings of the importance and time consideration of various competencies, (b) analyze ratings of the immediate supervisors concerning dietetic technicians' performance and amount of supervision required for the various competencies, (c) identify the type of program the dietetic technicians consider would provide the best preparatory background for present positions, and (d) present recommendations concerning curriculum design.

Dietetic technician members of The American Dietetic Association (ADA) and graduates of selected ADA approved dietetic technician programs were sent two questionnaires, one for the technician and one for the technician's immediate supervisor. Each instrument consisted of two parts, one requesting biographical data and the other asking for responses to each of seventy-four competencies by a rating on a definite scale. Part I of the technician questionnaire requested information concerning employment status, ADA membership, type of degree earned, career ladder plans, and which type of technician program (foodservice management, nutrition care, or a program providing equal emphasis on foodservice management and nutrition care) would provide the best background for present job responsibilities. In Part II, technicians were asked to rate each of the competencies on five point scales for importance and time consideration. A priority scale was developed to analyze

the importance and time consideration scores simultaneously. Part I of the supervisor questionnaire requested ratings of technicians' job performance and degree of supervision needed for each competency. Data from 134 matched questionnaires (technician and supervisor) and an additional fifty-eight from technicians with no supervisor responses were analyzed.

Since only a small number of respondents indicated foodservice management was the best background for present job responsibilities, analysis was limited to technicians who indicated nutritional care and those indicating a generalist program (i.e., equal emphasis on nutrition and foodservice management) as the most appropriate preparation for present jobs. A majority of the technicians (50.9 per cent) responded that a generalist program would provide them with the best preparatory background, and 38.0 per cent stated the nutrition program would be the most appropriate.

For the importance, time consideration, and priority ratings, the responses were categorized as follows: (a) statements rated similarly by both the nutrition and general technicians; (b) statements rated significantly higher ($P \leq .05$) by nutrition technicians than by general technicians; and (c) statements rated significantly higher ($P \leq .05$) by generalist technicians than by nutrition technicians. Those competencies rated similarly by both technician groups are considered to be core competencies needed on the job by both nutrition and general technicians. With few exceptions, competencies were rated similarly by the two groups for importance, time consideration, and priority. Only a few competencies (five on the importance scale and six on the time and priority ratings) were rated significantly higher by nutrition technicians than

by general technicians, and thirty-nine of the seventy-four competencies were rated as having greater importance, more frequent time consideration, and higher priority ($P \leq .05$) by generalist technicians.

To analyze the content and functional areas of the competencies, the statements were arranged into nine classifications: personal and professional development, human skills, teaching skills, record and information maintenance, nutritional care, evaluation/assessment, technical expertise, problem solving, and supervision skills. The majority of the competencies were in the technical expertise classification.

Twenty-one competencies were rated by 40 per cent or more of the technicians' supervisors as beyond the responsibility of the technician. These statements were concerned with record and information maintenance, evaluation and assessment activities, technical expertise, problem solving, and supervision skills. All were categorized as having greater priority in generalist positions with ratings in the low to medium priority range. Supervisors' ratings indicated that technicians' performance was in the satisfactory to above average range and only general to little or no supervision was needed.

The purpose of this research was to identify competencies relevant for technician practice that will provide input for design of a dietetic technician curriculum. The technicians' assessments were grouped according to the program (nutrition care or general) providing the best background for present job responsibilities. Over half of the technician respondents in the survey indicated a generalist program was the best preparatory background for present jobs. About half of the competency importance, time consideration, and priority scores were rated with equal importance for nutrition and general technicians. Few competencies were

identified with greater importance, time consideration, and priority for nutrition technicians; while over half of the competencies were identified with greater importance, time consideration, and priority for generalist positions. Such a division of competencies indicates a need for The American Dietetic Association to reevaluate current approved emphases of dietetic technician curricula.

The competency statements identified as relevant for technician practice in this study could provide guidance for curriculum design. Competency statements rated with greater priority by technicians could be emphasized. Those with less priority for many of the technicians perhaps should be considered as competencies to be developed in the work setting.

Additional research is needed to define the competencies further for each area of practice. Administrators and dietitians from health care facilities and qualified educators could provide additional input useful in curriculum design for a dietetic technician program.

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APPENDIXES

APPENDIX A
Competencies for Dietetic Technicians
from Holland

Competencies for Dietetic Technicians from Holland¹

Competency Number	Top Priority Competency Statements
1	Adheres to professional standards of behavior and attitude.
10	Assists dietitian with employee in-service classes which may include developing instructional materials, demonstrating use of standardized recipes, convenience food preparation.
24	Assists with cost control by compiling an accurate meal census, determining recipe and portion costs and preparing schedules.
33	Communicates effectively in talking with clientele and/or employees.
52	Demonstrates ability in making on-the-job adjustments when unexpected situations arise.
58	Demonstrates personal characteristics which mark leadership ability among co-workers and gains the confidence of co-workers, subordinates and superiors.
77	Directs the preparation of quantity food within an established production system following standardized recipes, preparation and service methods and food handling techniques to insure acceptable standards.
78	Directs the service and delivery of food to patients, students, staff to promote client satisfaction.
92	Exhibits a broad understanding of food, its composition, basic preparation principles, quantity production, availability, processing, fabrication and marketing.
171	Reports departmental status and problems to dietitian.
Competency Number	Second Priority Competency Statements
7	Applies the technique of work simplification to improving tasks of various jobs.

¹Source: Reference (21); used by written permission.

Competency Number	Second Priority Competency Statements
13	Assists in the development of specifications for food, small equipment and supplies to assure quality and cost control.
17	Assists in maintaining a budget.
20	Assists in the planning and service of special functions such as teas, dinners, luncheons and banquets.
21	Assists in up-dating job descriptions and specifications for dietary department personnel.
23	Assists the dietitian/nutritionist with the adaptation and implementation of policies relating to employees of the division.
25	Attends staff meetings and prepares appropriate records and reports such as cost control reports, productivity, etc.
30	Checks food deliveries against specifications and purchase orders.
34	Communicates with employees regarding motivation and grievances, studies reasons for absenteeism and turnover.
36	Compiles information for monthly reports on food cost, labor cost and supply cost.
37	Compiles information and other operational data.
49	Delegates duties to competent individuals.
63	Determines yield of products.
83	Estimates quantity of food for one day for specific number of servings.
100	Gathers information regarding food use and wastage.
105	Improves standards of food preparation.
112	Instructs proper use and care of equipment, utensils and supplies.
117	Maintains a preventive maintenance program for all equipment.

Competency Number	Second Priority Competency Statements
120	Maintains an established system of food sales and merchandising.
124	Maintains food production systems by supervision of specific units of production.
130	Maintains the use of standardized recipes as an effective means of cost and inventory control.
131	Makes production orders through written work sheets.
136	Motivates employees to follow policies and procedures for nutritional care services.
167	Recommends changes in food service or production systems.
168	Recommends improvements for facility and equipment layout.
201	Trains employees in order to achieve a predetermined goal providing job satisfaction both to self and to employees.
202	Understands how people learn and the principles of education as well as educational techniques and the ability to motivate.
203	Understands management system and suitability for a particular operation.
214	Use of basic accepted accounting procedures and principles.

APPENDIX B

Competencies for Dietetic Technicians

from Howard and Schiller

Competencies for Dietetic Technicians from Howard and Schiller¹

Competency Number	Competency Statements
0100	Demonstrate knowledge of basic food and nutrition facts
0101	Use a variety of appropriate resources
0103	Recognize overt food and nutrition fallacies which derive from basic food myths
0104	Substantiate basic nutritional information provided to laymen
0105	Provide basic information to lay individuals and groups
0200	Gather specific information for use in nutritional assessment
0201	Apply principles of basic nutrition and diet therapy to plan menus for individuals and groups
0202	Follow procedures to implement nutritional care
0203	Collect specific information for use in evaluating systems of nutritional care
0300	Collect specific information needed to assess nutritional and dietary services to determine effectiveness in meeting needs of the consumer
0301	Collect specified information for planning a system of nutrition and dietary services which meets needs of patients/clients
0302	Follow procedures to implement designed plan of nutritional and dietary services
0303	Maintain records for use in evaluating the effectiveness of a system of nutrition and dietary services
0304	Monitor a system of food and nutritional services with optimal standards
0305	Supervise the technical operations involved in the production, distribution, and service of quality food in specified facilities

¹Source: Reference (22); used by written permission.

Competency Number	Competency Statements
0306	Monitor a system of cost control
0307	Follow policies and procedures in personnel supervision
0309	Use problem-solving techniques in supervisory decision-making
0310	Determine daily priorities in use of time, equipment, and personnel
0311	Delegate tasks to personnel
0312	Exhibit leadership qualities
0313	Demonstrate positive human relation skills
0400	Assess dietetic-related educational needs of assigned individuals and groups
0401	Plan dietetic-related educational needs of assigned individuals and groups
0402	Teach assigned classes
0403	Use appropriate tools to evaluate achievement of learning objectives
0404	Use effective teaching strategies
0405	Develop teaching tools for achieving learning objectives
0406	Individualize instructional techniques
0407	Provide dietetic counseling/instruction to assigned individuals in uncomplicated situations
0408	Use techniques of group leadership to conduct small group interactions
0410	Accept unique differences of individuals
0600	Follow A.D.A. Code of Professional Conduct
0603	Communicate in appropriate formats with co-workers, lay individuals, and groups
0604	Be assertive in appropriate situations

Competency Number	Competency Statements
0605	Maintain equanimity
0606	Demonstrate empathy for patients/clients and employees
0607	Cope with diverse value systems of physicians and other disciplines, co-workers, patients/clients, and employees
0608	Consider ideas, suggestions and opinions of others
0609	Demonstrate self-confidence in one's own ability and expertise
0610	Recognize own limitations in professional practice
0611	Evaluate one's own professional competence
0612	Engage in a program of continuing self-development
0613	Participate in a variety of professional activities
0614	Examine the role of the dietetic technician in current and future practice

APPENDIX C

Final Research Instrument: Dietetic Technician Form

CAREER LADDERING IN DIETETIC EDUCATION

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Sponsored by:

The University of Kansas
Department of Dietetics
and Nutrition

Kansas State University
Department of Dietetics,
Restaurant and Institutional
Management

Kansas Dietetic
Association

SURVEY OF DIETETIC TECHNICIANS

PART I BACKGROUND INFORMATION

Please check the responses that apply to you.

1. Are you currently employed?
☐ (1) Yes
☐ (2) No
2. If unemployed state length of time since last employment:
☐ Months ☐ Years
3. From which type of program did you receive your degree?
☐ (1) ADA approved associate degree dietetic technician program in foodservice management
☐ (2) ADA approved associate degree dietetic technician program in nutrition care
☐ (3) Associate degree dietetic technician program (not ADA approved)
☐ (4) B.S. degree in general dietetics, foods and nutrition, or foodservice management
☐ (5) B.S. degree in general home economics
☐ (6) Other, please specify: _____
4. How many years have you been employed as a dietetic technician?
☐ years
5. How many years have you been a technician member of ADA?
☐ years
6. When were you born?
☐ (1) Prior to 1920
☐ (2) 1920 to 1925
☐ (3) 1926 to 1931
☐ (4) 1932 to 1937
☐ (5) 1938 to 1943
☐ (6) 1944 to 1949
☐ (7) 1950 to 1955
☐ (8) 1956 to 1960
7. Were you a foodservice supervisor (or dietetic assistant) before becoming a dietetic technician?
☐ (1) Yes
☐ (2) No
8. a. Are you:
☐ (1) Presently a member of HIEFSS
☐ (2) A past member of HIEFSS
☐ (3) Never a member of HIEFSS
 b. Are you certified through the HIEFSS organization?
☐ (1) Yes
☐ (2) No
9. Check the statement(s) which apply to your plans pertaining to meeting requirements for active membership in ADA and eligibility to become a registered dietitian (R.D.). Check as many as apply to you:
☐ (1) Have no plans at this time
☐ (2) Now working on requirements
☐ (3) Plan to complete college course work requirements
☐ (4) Have completed course work and plan to apply for an internship
☐ (5) Have completed course work and have started or plan to start a three-year work experience program
☐ (6) Have bachelor's degree and am enrolled or plan to enroll in a master's program

10. If you have plans to complete requirements for active membership in ADA and eligibility to become a registered dietitian (R.D.), indicate problems you might encounter using the following scale:
- 1 = Not a problem
2 = Somewhat of a problem
3 = Major problem
- a. No program available in area 1 2 3
b. Cannot afford to quit job 1 2 3
c. Family responsibilities 1 2 3
d. Other, please specify: 1 2 3

Respond to the following questions (11-17) in relation to your present position. If you have been employed as a dietetic technician in the last year but are not presently employed, please respond to questions 11-17 in relation to your last position. If unemployed as a dietetic technician for more than one (1) year, you do not need to complete the remainder of the questionnaire. Please return in the envelope provided.

11. What is (was) the title of your position?

12. Please indicate the type of institution at which you are (were) employed:
____ (1) Community hospital
____ (2) University medical center
____ (3) Intermediate or skilled nursing home
____ (4) School foodservice
____ (5) Day care center
____ (6) Elderly feeding project
____ (7) Other, please specify:

13. If employed at a health care facility, please indicate size:
____ (1) 100 beds and under
____ (2) 101 to 300 beds
____ (3) 301 to 500 beds
____ (4) Over 500 beds
____ (5) Employed at other type of facility

14. How many years have you been employed in your present position?
_____ years
15. Please indicate number of dietetic technicians on the staff at your institution, in each of the following categories (including yourself):
NUMBER
____ (1) Graduates of ADA approved dietetic technician program
____ (2) Graduates of a dietetic technician program (not ADA approved)
____ (3) Graduates of other types of programs, please specify:

16. In what size community are you employed?
____ (1) Big city (over 150,000)
____ (2) Medium city (between 25,000 and 150,000)
____ (3) Small city (2,500 to 25,000)
____ (4) Rural community (under 2,500)
17. Considering your present responsibilities, which of the following dietetic technician programs would provide the best background?
____ (1) Foodservice management
____ (2) Nutrition care
____ (3) Program with equal emphasis of foodservice management and nutrition care
18. For purposes of follow up only, please give the name and address of your immediate supervisor:

(name) _____
(address) _____
(city) _____ (state) _____
(zip code) _____

PART II

On the following pages is a list of competencies that have been identified for the dietetic technician. We would like you to rate each competency for importance and time consideration. The importance scale (Scale A) indicates the value that the competency has for you in your present position. The time consideration scale (Scale B) indicates the frequency with which you perform the competency. If not currently employed as a dietetic technician, but have been employed within the last year, please respond in relation to your prior position as a technician. Please complete all statements as best you can.

Scale A IMPORTANCE

- 1 = Essential
- 2 = Very important
- 3 = Fairly important
- 4 = Of minor or no importance
- 5 = Not a responsibility

Scale B TIME CONSIDERATION

- 1 = Constantly
- 2 = Frequently
- 3 = Occasionally
- 4 = Not at all
- 5 = Not a responsibility

EXAMPLE: Circle one number in each of the two scales for each competency listed.

<u>COMPETENCY STATEMENTS</u>	Scale A					Scale B				
	<u>IMPORTANCE</u>					<u>TIME CONSIDERATION</u>				
1. Determine recipe yields	1	2	③	4	5	1	②	3	4	5

These responses indicate that determining yields is fairly important and must be considered frequently.

	Scale A					Scale B				
	<u>IMPORTANCE</u>					<u>TIME CONSIDERATION</u>				
1. Communicate in appropriate written formats with co-workers, clients, and others	1	2	3	4	5	1	2	3	4	5
2. Understand how people learn, educational methods, and concepts of individual motivation	1	2	3	4	5	1	2	3	4	5
3. Use a variety of appropriate reference materials	1	2	3	4	5	1	2	3	4	5
4. Estimate quantity of food for one day for a specific number of servings	1	2	3	4	5	1	2	3	4	5

Scale A IMPORTANCE

- 1 = Essential
 2 = Very important
 3 = Fairly important
 4 = Of minor or no importance
 5 = Not a responsibility

Scale B TIME CONSIDERATION

- 1 = Constantly
 2 = Frequently
 3 = Occasionally
 4 = Not at all
 5 = Not a responsibility

	Scale A <u>IMPORTANCE</u>					Scale B <u>TIME CONSIDERATION</u>				
5. Plan dietetic-related educational needs of assigned individuals and groups	1	2	3	4	5	1	2	3	4	5
6. Demonstrate empathy or feeling for patients/clients and employees	1	2	3	4	5	1	2	3	4	5
7. Train employees to perform effectively	1	2	3	4	5	1	2	3	4	5
8. Consider ideas, suggestions, and opinions of others	1	2	3	4	5	1	2	3	4	5
9. Check trays for quality, portion sizes, and accuracy for all regular, modified diets and nourishments	1	2	3	4	5	1	2	3	4	5
10. Distinguish between food and nutrition facts, fads, and fallacies	1	2	3	4	5	1	2	3	4	5
11. Delegate duties to other personnel	1	2	3	4	5	1	2	3	4	5
12. Adhere to professional standards of behavior and attitude	1	2	3	4	5	1	2	3	4	5
13. Individualize instructional techniques	1	2	3	4	5	1	2	3	4	5
14. Use effective teaching strategies	1	2	3	4	5	1	2	3	4	5
15. Communicate with employees regarding motivation and grievances	1	2	3	4	5	1	2	3	4	5
16. Recommend changes in foodservice or production systems	1	2	3	4	5	1	2	3	4	5
17. Provide dietetic counseling/instruction to assigned individuals	1	2	3	4	5	1	2	3	4	5
18. Supervise food production processes effectively	1	2	3	4	5	1	2	3	4	5

	Scale A					Scale B				
	<u>IMPORTANCE</u>					<u>TIME CONSIDERATION</u>				
19. Demonstrate positive human relations skills	1	2	3	4	5	1	2	3	4	5
20. Determine recipe yields	1	2	3	4	5	1	2	3	4	5
21. Improve standards of food preparation	1	2	3	4	5	1	2	3	4	5
22. Use basic, accepted accounting procedures and practices	1	2	3	4	5	1	2	3	4	5
23. Report departmental status and problems to the dietitian	1	2	3	4	5	1	2	3	4	5
24. Maintain a preventative maintenance program for all equipment	1	2	3	4	5	1	2	3	4	5
25. Assist in maintaining a budget	1	2	3	4	5	1	2	3	4	5
26. Collect specific information for use in evaluating systems of nutrition care	1	2	3	4	5	1	2	3	4	5
27. Assess dietetic-related educational needs of assigned individuals and groups	1	2	3	4	5	1	2	3	4	5
28. Use techniques of group leadership to conduct small group interactions	1	2	3	4	5	1	2	3	4	5
29. Demonstrate ability in making on-the-job adjustments when unexpected situations arise	1	2	3	4	5	1	2	3	4	5
30. Demonstrate self-confidence in one's own ability and expertise	1	2	3	4	5	1	2	3	4	5
31. Accept unique differences of individuals	1	2	3	4	5	1	2	3	4	5
32. Recognize own limitations in professional practice	1	2	3	4	5	1	2	3	4	5
33. Substantiate basic nutritional information provided to laymen	1	2	3	4	5	1	2	3	4	5
34. Follow procedures to implement nutritional care	1	2	3	4	5	1	2	3	4	5
35. Check food deliveries against specifications and purchase orders	1	2	3	4	5	1	2	3	4	5

Scale A IMPORTANCE

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 5 = Not a responsibility

Scale B TIME CONSIDERATION

- 1 = Constantly
 2 = Frequently
 3 = Occasionally
 4 = Not at all
 5 = Not a responsibility

	Scale A <u>IMPORTANCE</u>					Scale B <u>TIME CONSIDERATION</u>				
36. Direct the service and delivery of food to the clients' satisfaction	1	2	3	4	5	1	2	3	4	5
37. Maintain an established system of food sales and merchandising	1	2	3	4	5	1	2	3	4	5
38. Assist dietitian with employee in-service classes	1	2	3	4	5	1	2	3	4	5
39. Assist in development of specifications for food, equipment, and supplies to assure quality and cost control	1	2	3	4	5	1	2	3	4	5
40. Collect specific information for use in nutritional assessment	1	2	3	4	5	1	2	3	4	5
41. Demonstrate knowledge of basic nutrition facts	1	2	3	4	5	1	2	3	4	5
42. Participate in a program of continuing self-development	1	2	3	4	5	1	2	3	4	5
43. Use problem-solving techniques in supervisory decision-making	1	2	3	4	5	1	2	3	4	5
44. Provide basic information to lay individuals and groups	1	2	3	4	5	1	2	3	4	5
45. Compile information for monthly reports	1	2	3	4	5	1	2	3	4	5
46. Apply principles of basic nutrition and diet therapy to plan menus for individuals and groups	1	2	3	4	5	1	2	3	4	5
47. Determine daily priorities in use of time, equipment, and personnel	1	2	3	4	5	1	2	3	4	5
48. Recommend improvements for facility and equipment layout	1	2	3	4	5	1	2	3	4	5

	Scale A					Scale B				
	<u>IMPORTANCE</u>					<u>TIME</u> <u>CONSIDERATION</u>				
49. Exhibit a broad understanding of food, its composition, basic preparation principles, quantity production, availability, processing, fabrication, and marketing	1	2	3	4	5	1	2	3	4	5
50. Assist the dietitian/nutritionist with adaptations and implementations of employee policies	1	2	3	4	5	1	2	3	4	5
51. Collect information to assess effectiveness of nutritional and dietetic services in meeting client needs	1	2	3	4	5	1	2	3	4	5
52. Understand management system and suitability for a particular operation	1	2	3	4	5	1	2	3	4	5
53. Participate in a variety of professional activities	1	2	3	4	5	1	2	3	4	5
54. Am assertive in appropriate situations	1	2	3	4	5	1	2	3	4	5
55. Follow policies and procedures in personnel supervision	1	2	3	4	5	1	2	3	4	5
56. Compile inventories and other operational data	1	2	3	4	5	1	2	3	4	5
57. Direct the preparation of quantity food within a production system	1	2	3	4	5	1	2	3	4	5
58. Assist with cost control by compiling pertinent data such as meal census and recipe and portion costs	1	2	3	4	5	1	2	3	4	5
59. Maintain records for use in evaluating the effectiveness of a system of nutrition and dietetic services	1	2	3	4	5	1	2	3	4	5
60. Cope with diverse value systems of physicians and other disciplines, co-workers, patients/clients, and employees	1	2	3	4	5	1	2	3	4	5
61. Evaluate own professional competence	1	2	3	4	5	1	2	3	4	5
62. Assist in the planning and service of special functions	1	2	3	4	5	1	2	3	4	5

Scale A IMPORTANCE

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 2 = Very important
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 4 = Of minor or no importance
 5 = Not a responsibility

Scale B TIME CONSIDERATION

- 1 = Constantly
 2 = Frequently
 3 = Occasionally
 4 = Not at all
 5 = Not a responsibility

	Scale A <u>IMPORTANCE</u>					Scale B <u>TIME CONSIDERATION</u>				
63. Prepare written work schedules that facilitate food production or service	1	2	3	4	5	1	2	3	4	5
64. Attend staff meetings and prepare appropriate records such as cost control reports, productivity, etc.	1	2	3	4	5	1	2	3	4	5
65. Direct employees in use of standardized recipes for all food preparation	1	2	3	4	5	1	2	3	4	5
66. Assist in updating job descriptions and specifications for dietetic personnel	1	2	3	4	5	1	2	3	4	5
67. Am effective in oral communication with clientele or employees	1	2	3	4	5	1	2	3	4	5
68. Collect specified information for planning a system of nutrition and dietetic services which meets needs of patients/clients	1	2	3	4	5	1	2	3	4	5
69. Examine the role of the dietetic technician in current and future practice	1	2	3	4	5	1	2	3	4	5
70. Follow established procedures for nutritional and dietetic services	1	2	3	4	5	1	2	3	4	5
71. Demonstrate personal characteristics which mark leadership ability among co-workers and gain confidence of co-workers, subordinates and superiors	1	2	3	4	5	1	2	3	4	5
72. Gather information regarding food usage and wastage	1	2	3	4	5	1	2	3	4	5
73. Direct employees to follow policies and procedures for nutritional care services willingly	1	2	3	4	5	1	2	3	4	5
74. Apply the techniques of work simplification to improve work flow	1	2	3	4	5	1	2	3	4	5

APPENDIX D

Final Research Instrument: Supervisory Form

CAREER LADDERING IN DIETETIC EDUCATION

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L
D
E

Cooperated by:

The University of Kansas
Department of Dietetics
and Nutrition

Kansas State University
Department of Dietetics,
Restaurant and Institutional
Management

Kansas Dietetic
Association

SURVEY OF DIETETIC TECHNICIANS

Please read directions and complete all items and return questionnaire in envelope provided.

Thank you for your cooperation.

SURVEY OF DIETETIC TECHNICIANS

PART I

The list on the following pages describes competencies that have been developed for dietetic technicians. Please rate each item in relation to the technician from whom you received the questionnaire, using the following two scales:

Scale A PERFORMANCE ON THE JOB

- 1 = Not a responsibility of the technician
- 2 = Unsatisfactory
- 3 = Needs improvement
- 4 = Satisfactory
- 5 = Above average
- 6 = Superior

Scale B DEGREE OF SUPERVISION NEEDED

- 1 = Not expected of a technician
- 2 = Could perform with close supervision
- 3 = Could perform with general supervision
- 4 = Could perform with little or no supervision

Please be as candid as possible. We are looking for differences in degrees of performance and supervision needed. For example, an employee may be superior in the performance of one competency while only satisfactory in the performance of another competency.

EXAMPLE: Circle one number in each of the two scales for each competency statement.

COMPETENCY STATEMENTS	Scale A						Scale B			
	<u>PERFORMANCE</u>						<u>DEGREE OF SUPERVISION</u>			
1. Determines recipe yields	1	2	③	4	5	6	1	2	③	4

These responses indicate that improvement in performance is needed, but the task could be performed with general supervision.

	Scale A						Scale B			
	<u>PERFORMANCE</u>						<u>DEGREE OF SUPERVISION</u>			
1. Communicates in appropriate written formats with co-workers, clients, and others	1	2	3	4	5	6	1	2	3	4
2. Understands how people learn, educational methods, and concepts of individual motivation	1	2	3	4	5	6	1	2	3	4

	Scale A						Scale B			
	<u>PERFORMANCE</u>						<u>DEGREE OF SUPERVISION</u>			
3. Uses a variety of appropriate reference materials	1	2	3	4	5	6	1	2	3	4
4. Estimates quantity of food for one day for a specific number of servings	1	2	3	4	5	6	1	2	3	4
5. Plans dietetic-related educational needs of assigned individuals and groups	1	2	3	4	5	6	1	2	3	4
6. Demonstrates empathy or feeling for patients/clients and employees	1	2	3	4	5	6	1	2	3	4
7. Trains employees to perform effectively	1	2	3	4	5	6	1	2	3	4
8. Considers ideas, suggestions, and opinions of others	1	2	3	4	5	6	1	2	3	4
9. Checks trays for quality, portion sizes, and accuracy for all regular, modified diets and nourishments	1	2	3	4	5	6	1	2	3	4
10. Distinguishes between food and nutrition facts, fads, and fallacies	1	2	3	4	5	6	1	2	3	4
11. Delegates duties to other personnel	1	2	3	4	5	6	1	2	3	4
12. Adheres to professional standards of behavior and attitude	1	2	3	4	5	6	1	2	3	4
13. Individualizes instructional techniques	1	2	3	4	5	6	1	2	3	4
14. Uses effective teaching strategies	1	2	3	4	5	6	1	2	3	4
15. Communicates with employees regarding motivation and grievances	1	2	3	4	5	6	1	2	3	4
16. Recommends changes in foodservice or production systems	1	2	3	4	5	6	1	2	3	4
17. Provides dietetic counseling/instruction to assigned individuals	1	2	3	4	5	6	1	2	3	4
18. Supervises food production systems effectively	1	2	3	4	5	6	1	2	3	4

Scale A PERFORMANCE ON THE JOB

- 1 = Not a responsibility
of the technician
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4 = Satisfactory
5 = Above average
6 = Superior

Scale B DEGREE OF SUPERVISION NEEDED

- 1 = Not expected of a technician
2 = Could perform with close
supervision
3 = Could perform with general
supervision
4 = Could perform with little
or no supervision

	Scale A <u>PERFORMANCE</u>						Scale B <u>DEGREE OF SUPERVISION</u>			
19. Demonstrates positive human relations skills	1	2	3	4	5	6	1	2	3	4
20. Determines recipe yields	1	2	3	4	5	6	1	2	3	4
21. Improves standards of food preparation	1	2	3	4	5	6	1	2	3	4
22. Uses basic, accepted accounting procedures and practices	1	2	3	4	5	6	1	2	3	4
23. Reports departmental status and problems to the dietitian	1	2	3	4	5	6	1	2	3	4
24. Maintains a preventative maintenance program for all equipment	1	2	3	4	5	6	1	2	3	4
25. Assists in maintaining a budget	1	2	3	4	5	6	1	2	3	4
26. Collects specific information for use in evaluating systems of nutrition care	1	2	3	4	5	6	1	2	3	4
27. Assesses dietetic-related educational needs of assigned individuals and groups	1	2	3	4	5	6	1	2	3	4
28. Uses techniques of group leadership to conduct small group interactions	1	2	3	4	5	6	1	2	3	4
29. Demonstrates ability in making on-the-job adjustments when unexpected situations arise	1	2	3	4	5	6	1	2	3	4
30. Demonstrates self-confidence in one's own ability and expertise	1	2	3	4	5	6	1	2	3	4

	Scale A						Scale B			
	<u>PERFORMANCE</u>						<u>DEGREE OF SUPERVISION</u>			
31. Accepts unique differences of individuals	1	2	3	4	5	6	1	2	3	4
32. Recognizes own limitations in professional practice	1	2	3	4	5	6	1	2	3	4
33. Substantiates basic nutritional information provided to laymen	1	2	3	4	5	6	1	2	3	4
34. Follows procedures to implement nutritional care	1	2	3	4	5	6	1	2	3	4
35. Checks food deliveries against specifications and purchase orders	1	2	3	4	5	6	1	2	3	4
36. Directs the service and delivery of food to the clients' satisfaction	1	2	3	4	5	6	1	2	3	4
37. Maintains an established system of food sales and merchandising	1	2	3	4	5	6	1	2	3	4
38. Assists dietitian with employee in-service classes	1	2	3	4	5	6	1	2	3	4
39. Assists in development of specifications for food, equipment, and supplies specifications to assure quality and cost control	1	2	3	4	5	6	1	2	3	4
40. Collects specific information for use in nutritional assessment	1	2	3	4	5	6	1	2	3	4
41. Demonstrates knowledge of basic nutrition facts	1	2	3	4	5	6	1	2	3	4
42. Participates in a program of continuing self-development	1	2	3	4	5	6	1	2	3	4
43. Uses problem-solving techniques in supervisory decision-making	1	2	3	4	5	6	1	2	3	4
44. Provides basic information to lay individuals and groups	1	2	3	4	5	6	1	2	3	4
45. Compiles information for monthly reports	1	2	3	4	5	6	1	2	3	4

Scale A PERFORMANCE ON THE JOB

- 1 = Not a responsibility
of the technician
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6 = Superior

Scale B DEGREE OF SUPERVISION NEEDED

- 1 = Not expected of a technician
2 = Could perform with close
supervision
3 = Could perform with general
supervision
4 = Could perform with little
or no supervision

	Scale A						Scale B			
	<u>PERFORMANCE</u>						<u>DEGREE OF SUPERVISION</u>			
46. Applies principles of basic nutrition and diet therapy to plan menus for individuals and groups	1	2	3	4	5	6	1	2	3	4
47. Determines daily priorities in use of time, equipment, and personnel	1	2	3	4	5	6	1	2	3	4
48. Recommends improvements for facility and equipment layout	1	2	3	4	5	6	1	2	3	4
49. Exhibits a broad understanding of food, its composition, basic preparation principles, quantity production, availability, processing, fabrication, and marketing	1	2	3	4	5	6	1	2	3	4
50. Assists the dietitian/nutritionist with adaptations and implementations of employee policies	1	2	3	4	5	6	1	2	3	4
51. Collects information to assess effectiveness of nutritional and dietetic services in meeting client needs	1	2	3	4	5	6	1	2	3	4
52. Understands management system and suitability for a particular operation	1	2	3	4	5	6	1	2	3	4
53. Participates in a variety of professional activities	1	2	3	4	5	6	1	2	3	4
54. Is assertive in appropriate situations	1	2	3	4	5	6	1	2	3	4
55. Follows policies and procedures in personnel supervision	1	2	3	4	5	6	1	2	3	4

	Scale A						Scale B			
	<u>PERFORMANCE</u>						<u>DEGREE OF SUPERVISION</u>			
56. Compiles inventories and other operational data	1	2	3	4	5	6	1	2	3	4
57. Directs the preparation of quantity food within a production system	1	2	3	4	5	6	1	2	3	4
58. Assists with cost control by compiling pertinent data such as meal census and recipe and portion costs	1	2	3	4	5	6	1	2	3	4
59. Maintains records for use in evaluating the effectiveness of a system of nutrition and dietetic services	1	2	3	4	5	6	1	2	3	4
60. Copes with diverse value systems of physicians and other disciplines, co-workers, patients/clients, and employees	1	2	3	4	5	6	1	2	3	4
61. Evaluates own professional competence	1	2	3	4	5	6	1	2	3	4
62. Assists in the planning and service of special functions	1	2	3	4	5	6	1	2	3	4
63. Prepares written work schedules that facilitate food production or service	1	2	3	4	5	6	1	2	3	4
64. Attends staff meetings and prepares appropriate records such as cost control reports, productivity, etc.	1	2	3	4	5	6	1	2	3	4
65. Directs employees in use of standardized recipes for all food preparation	1	2	3	4	5	6	1	2	3	4
66. Assists in updating job descriptions and specifications for dietetic personnel	1	2	3	4	5	6	1	2	3	4
67. Is effective in oral communication with clientele or employees	1	2	3	4	5	6	1	2	3	4
68. Collects specified information for planning a system of nutrition and dietetic services which meets needs of patients/clients	1	2	3	4	5	6	1	2	3	4

Scale A PERFORMANCE ON THE JOB

- 1 = Not a responsibility
of the technician
2 = Unsatisfactory
3 = Needs improvement
4 = Satisfactory
5 = Above average
6 = Superior

Scale B DEGREE OF SUPERVISION NEEDED

- 1 = Not expected of a technician
2 = Could perform with close
supervision
3 = Could perform with general
supervision
4 = Could perform with little
or no supervision

	Scale A <u>PERFORMANCE</u>						Scale B <u>DEGREE OF SUPERVISION</u>			
69. Examines the role of the dietetic technician in current and future practice	1	2	3	4	5	6	1	2	3	4
70. Follows established procedures to implement designed plan of nutritional and dietetic services	1	2	3	4	5	6	1	2	3	4
71. Demonstrates personal characteristics which mark leadership ability among co-workers and gains confidence of co-workers, subordinates and superiors	1	2	3	4	5	6	1	2	3	4
72. Gathers information regarding food usage and wastage	1	2	3	4	5	6	1	2	3	4
73. Directs employees to follow policies and procedures for nutritional care services willingly	1	2	3	4	5	6	1	2	3	4
74. Applies the techniques of work simplification to improve work flow	1	2	3	4	5	6	1	2	3	4

PART II BACKGROUND INFORMATION

1. Please indicate if you:

a. are an ADA member

- ____ (1) Yes
____ (2) No

b. a registered dietitian

- ____ (1) Yes
____ (2) No

2. How long have you worked with this technician?

____ months

____ years

APPENDIX E

Correspondence for Initial Distribution of Questionnaires

(Career Laddering in Dietetic Education Letterhead)

October 9, 1979

Dear ADA Technician Member:

The Department of Dietetics, Restaurant and Institutional Management at Kansas State University in cooperation with the University of Kansas College of Health Sciences and Hospital is conducting a survey as part of a project on Career Laddering in Dietetic Education. This project is being cosponsored by the Kansas Dietetic Association. The survey will aid in identifying competencies being performed by dietetic technicians and facilitate curriculum design for the technicians. The survey is being sent to all dietetic technicians who are members of The American Dietetic Association and their immediate supervisors. We need your help in order to gain an accurate picture of the activities being performed by dietetic technicians.

Two forms of the questionnaire are enclosed. Please complete the yellow questionnaire and return it in the enclosed envelope. The blue questionnaire with the attached letter should be given to your immediate supervisor for completion. There is a second return envelope for the supervisor.

All information will be confidential; the questionnaires are identified by code number for follow-up purposes only. Your name will not be linked with your responses. These two questionnaires will not be used for an evaluation of any person or employer, but will be used for research purposes only. No individual or response will be identified and no data from the study which would permit identification of individual respondents will be released.

We would appreciate your response to all items on the questionnaire; however, if there are individual items which you would prefer not to answer, please leave those blank. Your return of the questionnaire will indicate your willingness to participate in the study. We appreciate your response.

The survey should only take about 30 minutes of your time--will you please return it to us by the end of the week? Thank you for your time and cooperation in answering the questionnaire.

Sincerely,

Patricia A. Lamb

Patricia A. Lamb
Graduate Assistant

Marian C. Spears

Marian C. Spears, Ph.D., R.D.
Head and Professor

jj

c: Susan Meredith, O.T.R.
Judith Hall, R.D.
University of Kansas College of
Health Sciences and Hospital

(Career Laddering in Dietetic Education Letterhead)

October 9, 1979

Dear Supervisor of:

The Department of Dietetics, Restaurant and Institutional Management at Kansas State University in cooperation with the University of Kansas College of Health Sciences and Hospital is conducting a survey as part of a project on Career Laddering in Dietetic Education. This project is being cosponsored by the Kansas Dietetic Association. The survey will aid in identifying competencies being performed by dietetic technicians and facilitate curriculum design for the technicians. The survey is being sent to all dietetic technicians who are members of The American Dietetic Association and their immediate supervisors. We need your help in order to gain an accurate picture of the activities being performed by dietetic technicians.

Technicians have been asked to provide information about their responsibilities. We would like for you to provide information on performance and supervision of the technician on your staff.

All information will be confidential; the questionnaires are identified by code number for follow-up purposes only. Your name will not be linked with your responses. These two questionnaires will not be used for an evaluation of any person or employer, but will be used for research purposes only. No individual or response will be identified and no data from the study which would permit identification of individual respondents will be released.

We would appreciate your response to all items on the questionnaire; however, if there are individual items which you would prefer not to answer, please leave those blank. Your return of the questionnaire will indicate your willingness to participate in the study, and we appreciate your response.

The survey should only take about 30 minutes of your time—will you please return it to us by the end of the week? Thank you for your time and cooperation in answering the questionnaire.

Sincerely,



Patricia A. Lamb
Graduate Assistant



Marian C. Spears, Ph.D., R.D.
Head and Professor

jj

c: Susan Meredith, O.T.R.
Judith Hall, R.D.
University of Kansas College of
Health Sciences and Hospital

APPENDIX F

Correspondence for Second Distribution of Questionnaires

(KSU Letterhead)

November 1979

Dear Dietetic Technician:

The Department of Dietetics, Restaurant and Institutional Management at Kansas State University in cooperation with the University of Kansas College of Health Sciences and Hospital is conducting a survey as part of a project on Career Laddering in Dietetic Education. This project is being cosponsored by the Kansas Dietetic Association. The survey will aid in identifying competencies being performed by dietetic technicians and facilitate curriculum design for the technicians. We need your help in order to gain an accurate picture of the activities being performed by dietetic technicians.

Two forms of the questionnaire are enclosed. Please complete the yellow questionnaire and return it in the enclosed envelope. The blue questionnaire with the attached letter should be given to your immediate supervisor for completion. There is a second return envelope for the supervisor.

All information will be confidential; the questionnaires are identified by code number for follow-up purposes only. No individual or response will be identified and no data from the study which would permit identification of individual respondents will be released. Your name will not be linked with your responses.

We would appreciate your response to all items on the questionnaire; however, if there are individual items which you would prefer not to answer, please leave those blank. Your return of the questionnaire will indicate your willingness to participate in the study. We appreciate your response.

The survey should only take about 30 minutes of your time--will you please return it to us by the end of the week? Thank you for your time and cooperation in answering the questionnaire.

Sincerely,



Patricia A. Lamb
Graduate Assistant



Marian C. Spears, Ph.D., R.D.
Head and Professor

jj

c: Susan Meredith, O.T.R.
Judith Hall, R.D.
University of Kansas College of
Health Sciences and Hospital

(KSU Letterhead)

November 1979

Dear Supervisor of:

The Department of Dietetics, Restaurant and Institutional Management at Kansas State University in cooperation with the University of Kansas College of Health Sciences and Hospital is conducting a survey as part of a project on Career Laddering in Dietetic Education. This project is being cosponsored by the Kansas Dietetic Association. The survey will aid in identifying competencies being performed by dietetic technicians and facilitate curriculum design for the technicians. We need your help in order to gain an accurate picture of the activities being performed by dietetic technicians.

Technicians have been asked to provide information about their responsibilities. We would like for you to provide information on performance and supervision of the technician on your staff.

All information will be confidential; the questionnaires are identified by code number for follow-up purposes only. Your name will not be linked with your responses. These two questionnaires will not be used for an evaluation of any person or employer, but will be used for research purposes only. No individual or response will be identified and no data from the study which would permit identification of individual respondents will be released.

We would appreciate your response to all items on the questionnaire; however, if there are individual items which you would prefer not to answer, please leave those blank. Your return of the questionnaire will indicate your willingness to participate in the study, and we appreciate your response.

The survey should only take about 30 minutes of your time--will you please return it to us by the end of the week? Thank you for your time and cooperation in answering the questionnaire.

Sincerely,



Patricia A. Lamb
Graduate Assistant



Marian C. Spears, Ph.D., R.D.
Head and Professor

jj

c: Susan Meredith, O.T.R.
Judith Hall, R.D.
University of Kansas College of
Health Sciences and Hospital

(KSU Letterhead)

December 1979

Dear Dietetic Technician:

We need your help! A few weeks ago you should have received a packet containing two questionnaires. The Department of Dietetics, Restaurant and Institutional Management at Kansas State University in cooperation with the University of Kansas College of Health Sciences and Hospital is conducting a survey as part of a project on Career Laddering in Dietetic Education. This project is being cosponsored by the Kansas Dietetic Association.

In reviewing the questionnaires that have been returned, I have found that your response has not been received. We need your participation for the survey to be successful.

Two forms of the questionnaire are enclosed. Please complete the yellow questionnaire and return it in the enclosed envelope. The blue questionnaire with the attached letter should be given to your immediate supervisor for completion. There is a second return envelope for the supervisor.

All information will be confidential. Your name will not be linked with your responses. We would appreciate your response to all items on the questionnaire; however, if there are individual items which you would prefer not to answer, please leave those blank. Your return of the questionnaire will indicate your willingness to participate in the study.

The survey should only take about 30 minutes of your time--will you please return it to us by the end of the week? Thank you for your time and cooperation in answering the questionnaire.

Sincerely,



Patricia A. Lamb
Graduate Assistant



Marian C. Spears
Head and Professor

ns

c: Susan Meredith, O.T.R.
Judith Hall, R.D.
University of Kansas College of
Health Sciences and Hospital

(KSU Letterhead)

December 1979

Dear Supervisor of:

We need your help! The Department of Dietetics, Restaurant and Institutional Management at Kansas State University in cooperation with the University of Kansas College of Health Sciences and Hospital is conducting a survey as part of a project on Career Laddering in Dietetic Education. This project is being cosponsored by the Kansas Dietetic Association.

Several weeks ago technicians were sent questionnaires asking them to provide information about their responsibilities. We would like you to provide information on performance and supervision of the technician on your staff. We need your participation for the survey to be successful.

All information will be confidential. Your name will not be linked with your responses. We would appreciate your response to all items on the questionnaire; however, if there are individual items which you would prefer not to answer, please leave those blank. Your return of the questionnaire will indicate your willingness to participate in the study.

The survey should only take about 30 minutes of your time--will you please return it to us by the end of the week? Thank you for your time and cooperation in answering the questionnaire.

Sincerely,



Patricia A. Lamb
Graduate Assistant



Marian C. Spears
Head and Professor

ns

c: Susan Meredith, O.T.R.
Judith Hall, R.D.
University of Kansas College of
Health Sciences and Hospital

APPENDIX G

Correspondence for Follow-Up Mailing

(KSU Letterhead)

January 1980

Dear Dietetic Technician:

We need your help! In November you should have received a packet containing two questionnaires. The Department of Dietetics, Restaurant and Institutional Management at Kansas State University in cooperation with the University of Kansas College of Health Sciences and Hospital is conducting a survey as part of a project on Career Laddering in Dietetic Education. This project is being cosponsored by the Kansas Dietetic Association.

As you may recall, the packet contained a questionnaire for your immediate supervisor and one to be completed by you. In reviewing the questionnaires that have been returned, we found that a response has been received from your supervisor, but we have not received your response. In order to utilize the data received, it is important that we obtain your completed questionnaire as well.

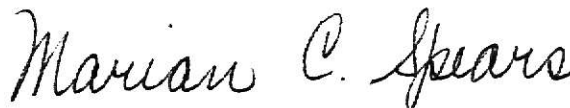
All information will be confidential. Your name will not be linked with your responses. We would appreciate your response to all items on the questionnaire; however, if there are individual items which you would prefer not to answer, please leave those blank. Your return of the questionnaire will indicate your willingness to participate in the study.

Enclosed is another copy of the questionnaire and a self-addressed, stamped envelope. The survey should only take about 30 minutes of your time--will you please return it to us by the end of the week? Thank you for your time and cooperation in answering the questionnaire. We need your help for the project to be successful.

Sincerely,



Patricia A. Lamb
Graduate Assistant



Marian C. Spears, Ph.D., R.D.
Head and Professor

ns

c: Susan Meredith, O.T.R.
Judith Hall, R.D.
University of Kansas College of
Health Sciences and Hospital

(KSU Letterhead)

January 1980

Dear Supervisor of:

The Department of Dietetics, Restaurant and Institutional Management at Kansas State University in cooperation with the University of Kansas College of Health Sciences and Hospital is conducting a survey as part of a project on Career Laddering in Dietetic Education. This project is being cosponsored by the Kansas Dietetic Association. The survey will aid in identifying competencies being performed by dietetic technicians and facilitate curriculum design for the technicians. We need your help in order to gain an accurate picture of the activities being performed by dietetic technicians.

Technicians have been asked to provide information about their responsibilities. We would like for you to provide information on performance and supervision of the technician on your staff.

In reviewing the questionnaires that have been returned, we found that a response has been received from the dietetic technician on your staff, but we have not received your response. Since the technician may not have had the opportunity to request your participation in the study, we are enclosing a questionnaire and a self-addressed, stamped envelope.

All information will be confidential; the questionnaires are identified by code number for follow-up purposes only. Your name will not be linked with your responses. The questionnaire will not be used for an evaluation of any person or employer, but will be used for research purposes only. No individual or response will be identified and no data from the study which would permit identification of individual respondents will be released.

The survey should only take about 30 minutes of your time--will you please return it to us by the end of the week? Thank you for your time and cooperation in answering the questionnaire. We need your help for this project to be successful.

Sincerely,

Patricia A. Lamb

Patricia A. Lamb
Graduate Assistant

Marian C. Spears

Marian C. Spears, Ph.D., R.D.
Head and Professor

ns

c: Susan Meredith, O.T.R.
Judith Hall, R.D.
University of Kansas College of
Health Sciences and Hospital

APPENDIX H
Coding of Questionnaire Data

Coding of Questionnaire Data

Card 1--Technician QuestionnaireColumn

1-3	Identification code (ID)
4	Card code 1
5	ADA membership, 1 = ADA member 2 = not ADA member
6	Part I, Item 1, Code as reported (pre-coded)
7-9	Item 2, Record length of time since last employment
10	Item 3, Code as reported (pre-coded)
11-12	Item 4, Record years employed as a dietetic technician
13-14	Item 5, Record years as a technician member of ADA
15	Item 6, Code as reported (pre-coded)
16	Item 7, Code as reported (pre-coded)
17	Item 8a, Code as reported (pre-coded)
18	Item 8b, Code as reported (pre-coded)
19-24	Item 9, 1 = response checked 2 = response left blank
25-27	Items 10a-c (1 item/col.) Code responses as reported: 1 = not a problem 2 = somewhat of a problem 3 = major problem
28	Item 10d, 1 = problem listed 2 = no problem listed
29	Item 12, Code as reported (pre-coded)
30	Item 13, Code as reported (pre-coded)
31-32	Item 14, Record years employed in present position
33-38	Item 15, Code number reported
39	Item 16, Code as reported (pre-coded)
40	Item 17, Code as reported (pre-coded)

Card 2--Technician QuestionnaireColumn

1-3	ID
4	Card code 2
5-80	Part II, Items 1-38 (2 col./item; Code Scale A in first col. and Scale B in second col. of 2 col. field) Code as reported: Scale A: 1, essential to 5, not a responsibility; and Scale B: 1, constantly to 5, not a responsibility

Card 3--Technician QuestionnaireColumn

1-3	ID
4	Card code 3
5-76	Items 39-74 (2 col./item; Code Scale A in first col. and Scale B in second col. of 2 col. field) Code as reported: 1, essential to 5, not a responsibility; and 1, constantly to 5, not a responsibility

Card 4--Supervisor's QuestionnaireColumn

1-3	ID
4	Card code 4
5-80	Part I, Items 1-38 (2 col./item; Code Scale A in first col. and Scale B in second col. of 2 col. field) Code as reported: 1, not a responsibility of the technician to 6, superior; and 1, not expected of a technician to 4, could perform with little or no supervision

Card 5--Supervisor's QuestionnaireColumn

1-3	ID
4	Card code 4
5-76	Items 39-74 (2 col./item; Code Scale A in first col. and Scale B in second col. of 2 col. field) Code as reported: 1, not a responsibility of the technician to 6, superior; and 1, not expected of a technician to 4, could perform with little or no supervision
77	Part II, Item 1a, Code as reported (pre-coded)
78	Item 1b, Code as reported (pre-coded)
79-80	Item 2, Code number reported

APPENDIX I

Supplemental Tables (Tables 18-24)

Table 18: Percentage distribution of technician responses on degree of importance of selected competencies in present position

item no.	competency statements	position emphasis ¹	importance ratings						not a responsibility
			essen- tial	very impor- tant	fairly impor- tant	minor or no impor- tance	%	%	
1	communicate in appropriate written formats	nutrition general	43.5 39.2	30.6 29.1	21.0 22.8	1.6 6.3			3.2 2.5
2	understand how people learn	nutrition general	27.4 30.4	41.9 48.1	12.9 16.5	6.5 5.1			11.3 --
3	use a variety of reference materials	nutrition general	30.6 35.9	43.5 30.8	21.0 29.5	1.6 2.6			3.2 1.3
4	estimate required quantity of food	nutrition general	4.8 36.7	8.1 22.8	9.7 12.7	6.5 3.8			71.0 24.1
5	plan to meet educational needs of assigned individuals	nutrition general	14.5 29.5	29.0 26.9	30.6 23.1	-- 6.4			25.8 14.1
6	demonstrate empathy for clients and employees	nutrition general	66.1 57.1	25.8 32.9	8.1 7.6	-- 1.3			-- 1.3

¹Nutrition = Technicians reporting emphasis in present position on nutrition care (N varies from 60 to 62).

General = Technicians reporting equal emphasis in present position on nutrition care and foodservice management (N varies from 75 to 79).

Table 18: (cont.)

item no.	competency statements	position emphasis	importance ratings				
			essen- tial	very impor- tant	fairly impor- tant	minor or no impor- tance	not a respon- sibility
			%	%	%	%	%
7	train employee to perform effectively	nutrition general	19.2 59.2	24.2 28.9	19.4 5.3	1.6 2.6	35.5 3.9
8	consider ideas and opinions of others	nutrition general	40.3 49.4	41.9 43.0	16.1 6.3	-- 1.3	1.6 --
9	check trays for quality, portion sizes, and accuracy	nutrition general	50.0 65.8	9.7 20.3	4.8 2.5	4.8 3.8	30.6 7.6
10	distinguish between nutrition facts and fads	nutrition general	32.3 38.0	40.3 30.4	16.1 25.3	6.5 2.5	4.8 3.8
11	delegate duties to other personnel	nutrition general	4.8 44.3	24.2 26.6	22.6 20.3	11.3 2.5	37.1 6.3
12	adhere to professional standards	nutrition general	78.7 72.2	18.0 24.1	1.6 2.5	-- --	1.6 1.3
13	individualize instructional techniques	nutrition general	32.3 35.1	35.5 42.9	17.7 14.0	-- 3.9	14.5 5.2
14	use effective teaching strategies	nutrition general	41.0 32.1	34.4 50.0	13.1 11.5	3.3 2.6	8.2 3.8
15	communicate with employees	nutrition general	22.6 43.0	17.7 43.0	19.4 8.9	9.7 --	30.6 5.1

Table 18: (cont.)

item no.	competency statements	position emphasis	importance ratings				
			essen- tial %	very impor- tant %	fairly impor- tant %	minor or no impor- tance %	not a respon- sibility %
16	recommend changes in foodservice and production systems	nutrition general	13.3 32.9	23.3 38.0	23.3 16.5	3.3 6.3	36.7 6.3
17	provide dietetic counseling to assigned individuals	nutrition general	58.1 40.5	19.4 32.9	11.3 8.9	-- 5.1	11.3 12.7
18	supervise food production process effectively	nutrition general	8.2 41.0	9.8 25.6	11.5 11.5	3.3 1.3	67.2 20.5
19	demonstrate positive human relations skills	nutrition general	61.3 53.2	29.0 37.7	9.7 7.8	-- --	-- 1.3
20	determine recipe yields	nutrition general	-- 17.9	1.6 29.5	6.5 14.1	3.2 5.1	88.7 33.3
21	improve standards of food preparation	nutrition general	8.1 31.2	11.3 32.5	6.5 14.3	6.5 2.6	67.7 19.5
22	use basic accounting procedures and practices	nutrition general	6.6 16.5	6.6 20.3	6.6 20.3	6.6 6.3	73.8 36.7
23	report departmental status to the dietitian	nutrition general	38.7 50.0	38.7 33.3	19.4 10.3	-- 2.6	3.2 3.8
24	maintain a preventative mainte- nance program for all equipment	nutrition general	1.6 20.3	9.8 24.1	1.6 11.4	6.6 5.1	80.3 39.2

Table 18: (cont.)

item no.	competency statements	position emphasis	essen- tial	importance ratings					not a respon- sibility
				very impor- tant	fairly impor- tant	minor or no impor- tance	%	%	
			%	%	%	%	%	%	%
25	assist in maintaining a budget	nutrition general	3.3 19.2	1.6 24.4	3.3 5.1	1.6 5.1	90.2 46.2		
26	collect information for evaluating nutrition care	nutrition general	21.0 26.6	27.4 32.9	21.0 13.9	3.2 8.9	27.4 17.7		
27	assess educational needs of individuals and groups	nutrition general	14.5 18.2	32.3 32.5	16.1 22.1	3.2 6.5	33.9 20.8		
28	use techniques of leadership for small group interactions	nutrition general	8.2 18.4	18.0 27.6	24.6 31.6	8.2 6.6	41.0 15.8		
29	make on-the-job adjustments when unexpected situations arise	nutrition general	51.6 59.5	35.5 34.2	6.5 5.1	1.6 --	4.8 1.3		
30	demonstrate self-confidence	nutrition general	72.6 68.4	27.4 27.8	-- 2.5	-- 1.3	-- --		
31	accept unique differences of individuals	nutrition general	66.1 53.2	33.9 39.2	-- 6.3	-- --	-- 1.3		
32	recognize own limitations	nutrition general	61.3 58.2	32.3 35.4	6.5 6.3	-- --	-- --		
33	substantiate basic nutritional information	nutrition general	43.5 25.3	35.5 45.3	12.9 16.0	-- 5.3	8.1 8.0		

Table 18: (cont.)

item no.	competency statements	position emphasis	importance ratings				
			essen- tial	very impor- tant	fairly impor- tant	minor or no impor- tance	not a respon- sibility
			%	%	%	%	%
34	follow procedures to implement nutritional care	nutrition general	66.1 41.6	27.4 42.9	1.6 5.2	-- 1.3	4.8 9.1
35	check food deliveries against specifications and purchase orders	nutrition general	1.6 39.2	3.2 20.3	3.2 10.1	1.6 2.5	90.3 27.8
36	direct the service and delivery of food	nutrition general	25.8 48.1	14.5 36.7	17.7 5.1	4.8 2.5	37.1 7.6
37	maintain food sales and merchant- dising systems	nutrition general	-- 12.8	1.6 16.7	-- 9.0	-- 3.8	98.4 57.7
38	assist dietitian with employee classes	nutrition general	8.1 27.6	24.2 31.6	17.7 14.5	4.8 6.6	45.2 19.7
39	assist in development of specifications	nutrition general	1.6 23.1	4.8 17.9	3.2 16.7	1.6 1.3	88.7 41.0
40	collect specific information for nutritional assessment	nutrition general	45.2 27.6	35.5 35.5	12.9 7.9	-- 6.6	6.5 22.4
41	demonstrate knowledge of basic nutrition facts	nutrition general	93.4 55.1	6.6 35.9	-- 7.7	-- --	-- 1.3
42	participate in a program of self-development	nutrition general	34.4 41.8	47.5 43.0	11.5 8.9	3.3 2.5	3.3 3.8

Table 18: (cont.)

item no.	competency statements	position emphasis	importance ratings					
			essen- tial	very impor- tant	fairly impor- tant	minor or no impor- tance	not a respon- sibility	
			%	%	%	%	%	
43	use problem-solving techniques	nutrition general	11.3 34.2	32.3 41.8	11.3 15.2	-- 2.5	45.2 6.3	
44	provide basic information to lay individuals and groups	nutrition general	29.0 19.5	41.9 40.3	9.7 19.5	3.2 5.2	16.1 15.6	
45	compile information for monthly reports	nutrition general	8.1 23.4	8.1 19.5	8.1 19.5	3.2 3.9	72.6 33.8	
46	apply nutrition principles to menu planning	nutrition general	45.2 37.7	24.2 39.0	6.5 6.5	1.6 1.3	22.6 15.6	
47	determine time, equipment, and personnel priorities	nutrition general	22.6 37.2	14.5 32.1	8.1 12.8	4.8 --	50.0 17.9	
48	recommend facility and equipment	nutrition general	3.3 19.2	9.8 24.4	6.6 21.8	3.3 6.4	77.0 28.2	
49	exhibit a broad knowledge of food composition and preparation principles	nutrition general	14.8 31.6	24.6 26.3	27.9 21.1	1.6 5.3	31.1 15.8	
50	assist the dietitian with revising and implementing employee policies	nutrition general	9.7 32.0	27.4 32.0	29.0 16.0	8.1 4.0	25.8 16.0	

Table 18: (cont.)

item no.	competency statements	position emphasis	importance ratings				
			essen- tial %	very impor- tant %	fairly impor- tant %	minor or no impor- tance %	not a respon- sibility %
51	assess effectiveness of nutritional and dietetic services	nutrition general	32.3 20.8	30.6 42.9	21.0 18.2	1.6 1.3	14.5 16.9
52	understand management system	nutrition general	9.8 32.5	21.3 42.9	24.6 13.0	8.2 3.9	36.1 7.8
53	participate in professional activities	nutrition general	16.1 26.0	38.7 37.7	27.4 26.0	9.7 6.5	8.1 3.9
54	am assertive in appropriate situations	nutrition general	36.0 37.7	56.5 51.9	12.9 7.8	-- 2.6	-- --
55	follow policies and procedures in personnel supervision	nutrition general	19.4 63.6	41.9 28.6	6.5 3.9	1.6 1.3	30.6 2.6
56	compile inventories and other operational data	nutrition general	6.5 30.3	3.2 23.7	12.9 10.5	1.6 3.9	75.8 31.6
57	direct the preparation of quantity food	nutrition general	-- 33.8	3.2 26.0	8.1 5.2	3.2 2.6	85.5 32.5
58	assist with cost control	nutrition general	4.8 27.6	4.8 19.7	4.8 6.6	1.6 5.3	83.9 40.8
59	maintain records for evaluation of nutrition and dietetic services	nutrition general	8.1 20.8	22.6 29.9	12.9 13.0	3.2 5.2	53.2 31.2

Table 18: (cont.)

item no.	competency statements	position emphasis	importance ratings				
			essen- tial	very impor- tant	fairly impor- tant	minor or no impor- tance	not a respon- sibility
			%	%	%	%	%
60	cope with diverse value systems of physicians, co-workers, and patients	nutrition general	46.8 36.8	32.3 38.2	14.5 9.2	-- 2.6	6.5 13.2
61	evaluate own professional competence	nutrition general	35.5 29.9	48.4 51.3	9.7 6.6	3.2 3.9	3.2 9.2
62	assist in the planning and service of special functions	nutrition general	4.8 27.3	14.5 27.3	27.4 19.5	6.5 7.8	46.8 18.2
63	prepare written work schedules	nutrition general	1.6 39.5	9.7 21.1	1.6 6.6	3.2 3.9	83.9 28.9
64	attend staff meetings and prepare appropriate records	nutrition general	6.5 27.3	6.5 20.8	12.9 10.4	-- 3.9	74.2 37.7
65	direct employees in use of standardized recipes	nutrition general	-- 29.5	6.5 25.6	6.5 9.0	3.2 1.3	83.9 34.6
66	assist in updating job descriptions	nutrition general	4.8 38.2	16.1 25.0	17.7 19.7	6.5 2.6	54.8 14.5
67	am effective in oral communication	nutrition general	56.5 57.3	38.7 38.7	4.8 2.7	-- 1.3	-- --

Table 18: (cont.)

item no.	competency statements	position emphasis	importance ratings					
			essen- tial	very impor- tant	fairly impor- tant	minor or no impor- tance	not a respon- sibility	
			%	%	%	%	%	
68	collect information for planning a system of nutrition and dietetic services	nutrition general	27.4 26.0	38.7 40.3	11.3 7.8	1.6 1.3	21.0 24.7	
69	examine the role of the dietetic technician	nutrition general	32.3 24.7	40.3 35.1	16.1 14.3	-- 11.7	11.3 14.3	
70	follow established procedures for nutritional and dietetic services	nutrition general	64.5 50.6	32.3 41.6	3.2 3.9	-- 1.3	-- 2.6	
71	demonstrate personal characteristics which mark leadership	nutrition general	42.6 54.5	42.6 40.3	14.8 2.6	-- 2.6	-- --	
72	gather information regarding food usage and wastage	nutrition general	-- 25.6	16.1 32.1	22.6 15.4	4.8 3.8	56.5 23.1	
73	direct employees to follow nutri- tional care policies and procedures	nutrition general	21.0 42.9	30.6 41.6	16.1 7.8	1.6 1.3	30.6 6.5	
74	apply the techniques of work simplification	nutrition general	21.0 37.2	30.6 37.2	9.7 14.1	3.2 2.6	35.5 9.0	

Table 19: Percentage distribution of technician responses on time consideration ratings of selected competencies in present position

item no.	competency statements	position, emphasis ¹	time consideration ratings						not a respon- sibility
			con- stantly	fre- quently	occa- sionally	not at all			
			%	%	%	%	%	%	
1	communicate in appropriate written formats	nutrition general	46.8 31.6	30.6 43.0	19.4 22.8	-- --	3.2 2.5		
2	understand how people learn	nutrition general	33.9 25.3	27.4 54.4	21.0 19.0	3.2 1.3	14.5 --		
3	use a variety of reference materials	nutrition general	16.1 23.1	40.3 33.3	40.3 41.0	-- --	3.2 2.6		
4	estimate required quantity of food	nutrition general	8.2 35.4	6.6 13.9	6.6 19.0	6.6 3.8	72.1 27.8		
5	plan to meet educational needs of assigned individuals	nutrition general	9.8 12.8	24.6 30.8	39.3 35.9	-- 3.8	26.2 16.7		
6	demonstrate empathy for clients and employees	nutrition general	56.5 56.4	37.1 38.5	6.5 5.1	-- --	-- --		

¹ Nutrition = Technicians reporting emphasis in present position on nutrition care (N varies from 59 to 62).

General = Technicians reporting equal emphasis in present position on nutrition care and foodservice management (N varies from 75 to 79).

Table 19: (cont.)

item no.	competency statements	position emphasis	time consideration ratings					not a respon- sibility
			con- stantly	fre- quently	occa- sionally	not at all		
			%	%	%	%		
7	train employees to perform effectively	nutrition general	8.2 46.8	19.7 28.6	36.1 16.9	1.6 1.3	34.4 6.5	
8	consider ideas and opinions of others	nutrition general	29.0 53.2	48.4 36.7	21.0 10.1	1.6 --	-- --	
9	check trays for quality, portion sizes, and accuracy	nutrition general	35.5 62.0	17.7 22.8	14.5 5.1	1.6 2.5	30.6 7.6	
10	distinguish between nutrition facts and fads	nutrition general	24.6 29.1	26.2 30.4	39.3 36.7	4.9 --	4.9 3.8	
11	delegate duties to other personnel	nutrition general	4.9 35.9	18.0 37.2	36.1 19.2	4.9 1.3	36.1 6.4	
12	adhere to professional standards	nutrition general	83.3 74.7	16.7 20.3	-- 5.1	-- --	-- --	
13	individualize instructional techniques	nutrition general	25.8 33.8	30.6 35.1	27.4 23.4	-- 1.3	16.1 6.5	
14	use effective teaching strategies	nutrition general	25.8 16.9	30.6 51.9	33.9 27.3	-- --	9.7 3.9	
15	communicate with employees	nutrition general	11.5 31.6	21.3 40.5	32.8 21.5	4.9 1.3	29.5 5.1	

Table 19: (cont.)

item no.	competency statements	position emphasis	time consideration ratings						not a respon- sibility
			con- stantly	fre- quently	occa- sionally	not at all	%	%	
			%	%	%	%	%	%	
16	recommend changes in foodservice and production systems	nutrition general	3.4 16.5	16.9 30.4	40.7 43.0	3.4 3.8	35.6 6.3		
17	provide dietetic counseling to assigned individuals	nutrition general	33.9 22.8	25.8 31.6	27.4 29.1	-- 1.3	12.9 15.2		
18	supervise food production processes effectively	nutrition general	3.3 33.3	8.3 24.4	16.7 20.5	5.0 --	66.7 21.8		
19	demonstrate positive human relations skills	nutrition general	51.6 35.1	37.1 50.6	11.3 14.3	-- --	-- --		
20	determine recipe yields	nutrition general	-- 7.7	1.6 24.4	6.6 25.6	-- 5.1	91.8 37.2		
21	improve standards of food preparation	nutrition general	1.6 20.8	8.1 23.4	17.7 32.5	3.2 2.6	69.4 20.8		
22	use basic accounting procedures and practices	nutrition general	6.7 17.7	5.0 5.1	6.7 34.2	8.3 5.1	73.3 38.0		
23	report departmental status to the dietitian	nutrition general	35.5 41.0	37.1 35.9	24.2 19.2	-- --	3.2 3.8		
24	maintain a preventative maintenance program for all equipment	nutrition general	3.4 14.1	6.8 19.2	5.1 17.9	5.1 5.1	79.7 43.6		

Table 19: (cont.)

item no.	competency statements	position emphasis	time consideration ratings						not a respon- sibility
			con- stantly	fre- quently	occa- sionally	not at all			
			%	%	%	%	%		
25	assist in maintaining a budget	nutrition general	-- 19.2	1.7 12.8	3.4 12.8	-- 3.8	94.9 51.3		
26	collect information for evaluating nutrition care	nutrition general	19.7 21.8	21.3 26.9	32.8 26.9	-- 3.8	26.2 20.5		
27	assess educational needs of individuals and groups	nutrition general	10.0 11.7	16.7 26.0	35.0 39.0	5.0 1.3	33.3 22.1		
28	use techniques of leadership for small group interactions	nutrition general	3.3 11.8	13.3 23.7	40.0 44.7	3.3 1.3	40.0 18.4		
29	make on-the-job adjustments when unexpected situations arise	nutrition general	29.0 30.4	32.3 44.3	33.9 25.3	-- --	4.8 --		
30	demonstrate self-confidence	nutrition general	56.5 53.2	41.9 43.0	1.6 3.8	-- --	-- --		
31	accept unique differences of individuals	nutrition general	50.0 45.6	48.4 41.8	1.6 12.7	-- --	-- --		
32	recognize own limitations	nutrition general	51.6 38.5	35.5 41.0	12.9 19.2	-- 1.3	-- --		
33	substantiate basic nutritional information	nutrition general	36.1 14.7	23.0 38.7	34.4 36.0	-- 1.3	6.6 9.3		

Table 19: (cont.)

item no.	competency statements	position emphasis	time consideration ratings						not a respon- sibility
			con- stantly	fre- quently	occa- sionally	not at all	%	%	
			%	%	%	%	%	%	
34	follow procedures to implement nutritional care	nutrition general	61.3 37.7	25.8 35.1	8.1 16.9	-- 1.3	-- 4.8	4.8 9.1	
35	check food deliveries against specifications and purchase orders	nutrition general	-- 31.6	1.7 16.5	8.3 17.7	-- 2.5	-- 31.6	90.0 31.6	
36	direct the service and delivery of food	nutrition general	19.7 51.9	16.4 30.4	24.6 8.9	3.3 --	36.1 8.9		
37	maintain food sales and merchandising systems	nutrition general	-- 12.8	1.7 6.4	-- 14.1	-- 5.1	98.3 61.5		
38	assist dietitian with employee classes	nutrition general	3.3 11.8	5.0 34.2	43.3 30.3	3.3 2.6	45.0 21.1		
39	assist in development of specifications	nutrition general	-- 15.4	1.7 14.1	6.7 21.8	1.7 3.8	90.0 44.9		
40	collect specific information for nutritional assessment	nutrition general	38.7 19.7	19.4 38.2	35.5 11.8	-- 6.6	6.5 23.7		
41	demonstrate knowledge of basic nutrition facts	nutrition general	82.0 51.9	11.5 35.1	6.6 11.7	-- --	-- 1.3		
42	participate in a program of self-development	nutrition general	21.3 27.8	39.3 36.7	34.4 29.1	1.6 2.5	3.3 3.8		

Table 19: (cont.)

item no.	competency statements	position emphasis	time consideration ratings					not a respon- sibility
			con- stantly	fre- quently	occa- sionally	not at all		
			%	%	%	%	%	
43	use problem-solving techniques	nutrition general	3.3 17.7	23.3 40.5	30.0 32.9	-- 2.5	43.3 6.3	
44	provide basic information to lay individuals and groups	nutrition general	22.6 14.3	19.4 22.1	40.3 42.9	1.6 3.9	16.1 16.9	
45	compile information for monthly reports	nutrition general	6.6 18.4	9.8 19.7	9.8 22.4	-- 3.9	73.8 35.5	
46	apply nutrition principles to menu planning	nutrition general	40.0 35.5	8.3 23.7	31.7 22.4	-- 2.6	20.0 15.8	
47	determine time, equipment, and personnel priorities	nutrition general	23.0 29.9	13.1 32.5	13.1 18.2	3.3 --	47.5 19.5	
48	recommend facility and equipment	nutrition general	1.7 11.5	3.4 17.9	13.6 35.9	5.1 3.8	76.3 30.8	
49	exhibit a broad knowledge of food composition and preparation principles	nutrition general	8.5 13.3	23.7 32.0	32.2 36.0	3.4 2.7	32.2 16.0	
50	assist the dietitian with revising and implementing employee policies	nutrition general	6.7 20.0	13.3 29.3	48.3 29.3	6.7 5.3	25.0 16.0	

Table 19: (cont.)

item no.	competency statements	position emphasis	time consideration ratings					
			con-stantly	fre-quently	occa-sionally	not at all	not a respon-sibility	
			%	%	%	%	%	
51	assess effectiveness of nutritional and dietetic services	nutrition general	21.3 16.9	21.3 23.4	41.0 37.7	1.6 2.6	14.8 19.5	
52	understand management system	nutrition general	6.6 16.9	8.2 39.0	29.5 29.9	13.1 2.6	42.6 11.7	
53	participate in professional activities	nutrition general	8.3 14.3	21.7 26.0	58.3 49.4	5.0 6.5	6.7 3.9	
54	am assertive in appropriate situations	nutrition general	11.3 22.4	56.5 52.6	30.6 23.7	1.6 1.3	-- --	
55	follow policies and procedures in personnel supervision	nutrition general	16.4 54.5	31.1 31.2	23.0 10.4	1.6 --	27.9 3.9	
56	compile inventories and other operational data	nutrition general	-- 22.4	4.9 26.3	14.8 17.1	1.6 1.3	78.7 32.9	
57	direct the preparation of quantity food	nutrition general	-- 18.4	1.6 21.1	6.6 21.1	3.3 --	88.5 39.5	
58	assist with cost control	nutrition general	-- 21.1	8.2 18.4	6.6 10.5	-- 3.9	85.2 46.1	
59	maintain records for evaluation of nutrition and dietetic services	nutrition general	3.3 9.1	18.0 22.1	18.0 26.0	6.6 1.3	54.1 41.6	

Table 19: (cont.)

item no.	competency statements	position emphasis	time consideration ratings						not a respon- sibility
			con- stantly	fre- quently	occa- sionally	not at all	%	%	
			%	%	%	%	%	%	
60	cope with diverse value systems of physicians, co-workers, and patients	nutrition general	40.3 34.7	30.6 26.7	22.6 24.0	-- --			6.5 14.7
61	evaluate own professional competence	nutrition general	24.6 18.4	41.0 48.7	31.1 19.7	1.6 1.3			1.6 11.8
62	assist in the planning and service of special functions	nutrition general	3.3 14.3	11.5 33.8	36.1 27.3	3.3 3.9			45.9 20.8
63	prepare written work schedules	nutrition general	4.9 27.6	3.3 22.4	3.3 14.5	3.3 2.6			85.2 32.9
64	attend staff meetings and prepare appropriate records	nutrition general	3.3 13.0	8.2 24.7	11.5 13.0	1.6 5.2			75.4 44.2
65	direct employees in use of standardized recipes	nutrition general	-- 17.9	1.6 24.4	8.2 21.8	3.3 --			86.9 35.9
66	assist in updating job descriptions	nutrition general	-- 17.3	8.2 25.3	31.1 37.3	4.9 4.0			55.7 16.0
67	am effective in oral communication	nutrition general	46.8 48.0	41.9 46.7	11.3 5.3	-- --			-- --

Table 19: (cont.)

item no.	competency statements	position emphasis	time consideration ratings						not a respon- sibility
			con- stantly	fre- quently	occa- sionally	not at all	%	%	
68	collect information for planning a system of nutrition and dietetic services	nutrition general	25.8 19.5	19.4 35.1	32.3 16.9	-- 1.3			22.6 27.3
69	examine the role of the dietetic technician	nutrition general	21.3 11.8	27.9 28.9	39.3 25.0	1.6 13.2			9.8 21.1
70	follow established procedures for nutritional and dietetic services	nutrition general	62.9 48.7	30.6 36.8	6.5 11.8	-- 1.3			-- 1.3
71	demonstrate personal character- istics which mark leadership	nutrition general	32.8 45.5	54.1 39.0	11.5 15.6	1.6 --			-- --
72	gather information regarding food usage and wastage	nutrition general	-- 16.7	8.2 23.1	23.0 35.9	8.2 1.3			60.7 23.1
73	direct employees to follow nutri- tional care policies and procedures	nutrition general	11.5 32.5	26.2 42.9	27.9 18.2	3.3 --			31.1 6.5
74	apply the techniques of work simplification	nutrition general	16.4 24.4	26.2 34.6	19.7 28.2	3.3 3.8			34.4 9.0

Table 20: Percentage distribution of priority ratings of selected competencies by technician's present position

item no.	competency statements	position emphasis ¹	priority ratings					
			no prior-ity	very low prior-ity	low prior-ity	medium prior-ity	high prior-ity	very high prior-ity
			%	%	%	%	%	%
1	communicate in appropriate written formats	nutrition general	3.2 2.5	-- 2.5	14.5 17.7	8.1 8.9	30.6 29.1	43.5 39.2
2	understand how people learn	nutrition general	14.5 --	8.1 2.5	11.3 11.4	-- 7.6	38.7 48.1	27.4 30.4
3	use a variety of reference materials	nutrition general	3.2 2.6	1.6 --	17.7 25.6	3.2 5.1	43.5 30.8	30.6 35.9
4	estimate required quantity of food	nutrition general	72.1 27.8	9.8 3.8	3.3 10.1	3.3 --	6.6 21.5	4.9 36.7
5	plan to meet educational needs of assigned individuals	nutrition general	26.2 16.7	-- 5.1	24.6 21.8	4.9 1.3	29.5 26.9	14.8 28.2
6	demonstrate empathy for clients and employees	nutrition general	-- --	-- --	1.6 3.8	6.5 5.1	25.8 33.3	66.1 57.7

¹Nutrition = Technicians reporting emphasis in present position on nutrition care (N varies from 59 to 62).
 General = Technicians reporting equal emphasis in present position on nutrition care and foodservice management (N varies from 75 to 79).

Table 20: (cont.)

item no.	competency statements	position emphasis	priority ratings							
			no prior-ity	very low prior-ity	low prior-ity	medium prior-ity	high prior-ity	very high prior-ity		
			%	%	%	%	%	%		%
7	train employee to perform effectively	nutrition general	34.4	3.3	18.0	1.6	23.0	19.7		
			5.3	2.6	3.9	1.3	28.9	57.9		
8	consider ideas and opinions of others	nutrition general	--	1.6	12.9	3.2	41.9	40.3		
			--	--	5.1	2.5	43.0	49.4		
9	check trays for quality, portion sizes, and accuracy	nutrition general	30.6	4.8	4.8	--	9.7	50.0		
			7.6	2.5	2.5	1.3	20.3	65.8		
10	distinguish between nutrition facts and fads	nutrition general	4.9	8.2	13.1	1.6	39.3	32.8		
			3.8	2.5	22.8	2.5	30.4	38.0		
11	delegate duties to other personnel	nutrition general	36.1	11.5	23.0	--	24.6	4.9		
			6.4	6.2	12.8	6.4	26.9	44.9		
12	adhere to professional standards	nutrition general	--	1.7	--	1.7	18.3	78.3		
			--	1.3	1.3	1.3	24.1	72.2		
13	individualize instructional techniques	nutrition general	16.1	--	14.5	1.6	35.5	32.3		
			6.5	2.6	13.0	1.3	41.6	35.1		
14	use effective teaching strategies	nutrition general	9.8	1.6	11.5	1.6	34.4	41.0		
			3.9	1.3	10.4	1.3	50.6	32.5		
15	communicate with employees	nutrition general	29.5	11.5	18.0	--	18.0	23.0		
			5.1	1.3	7.6	--	43.0	43.0		

Table 20: (cont.)

item no.	competency statements	position emphasis	priority ratings							
			no prior- ity	very low prior- ity	low prior- ity	medium prior- ity	high prior- ity	very high prior- ity		
			%	%	%	%	%	%		%
16	recommend changes in foodservice and production systems	nutrition general	35.6 6.3	5.1 7.6	23.7 15.2	-- --	22.0 38.0	13.6 32.9		
17	provide dietetic counseling to assigned individuals	nutrition general	12.9 15.2	-- 3.8	11.3 7.6	-- --	17.7 32.9	58.1 40.5		
18	supervise food production process effectively	nutrition general	66.7 21.8	5.0 1.3	10.0 9.0	-- 1.3	10.0 25.6	8.3 41.0		
19	demonstrate positive human relations skills	nutrition general	-- --	-- 1.3	8.1 5.2	1.6 2.6	29.0 37.7	61.3 53.2		
20	determine recipe yields	nutrition general	91.8 37.2	-- 5.1	6.6 10.3	-- 2.6	1.6 26.9	-- 17.9		
21	improve standards of food preparation	nutrition general	69.4 20.8	6.5 3.9	6.5 13.0	-- 1.3	11.3 29.9	6.5 31.2		
22	use basic accounting procedures and practices	nutrition general	73.3 38.0	8.3 6.3	5.0 20.3	-- --	6.7 19.0	6.7 16.5		
23	report departmental status to the dietitian	nutrition general	3.2 3.8	-- 1.3	14.5 10.3	4.8 1.3	38.7 33.3	38.7 50.0		
24	maintain a preventative maintenance program for all equipment	nutrition general	79.7 43.6	8.5 6.4	-- 9.0	-- 2.6	10.2 20.5	1.7 17.9		

Table 20: (cont.)

item no.	competency statements	position emphasis	priority ratings					
			no priority %	very low priority %	low priority %	medium priority %	high priority %	very high priority %
25	assist in maintaining a budget	nutrition general	94.9 51.3	-- 3.8	3.4 5.1	-- --	1.7 20.5	-- 19.2
26	collect information for evaluating nutrition care	nutrition general	26.2 20.5	3.3 7.7	21.3 12.8	-- 1.3	27.9 30.8	21.3 26.9
27	assess educational needs of individuals and groups	nutrition general	33.3 22.1	6.7 6.5	15.0 19.5	-- 1.3	30.0 32.5	15.0 18.2
28	use techniques of leadership for small group interactions	nutrition general	40.0 18.4	8.3 6.6	23.3 26.3	1.7 2.6	18.3 27.6	8.3 18.4
29	make on-the-job adjustments when unexpected situations arise	nutrition general	4.8 --	1.6 1.3	4.8 3.8	1.6 1.3	35.5 34.2	51.6 59.5
30	demonstrate self-confidence	nutrition general	-- --	-- --	-- 2.5	-- 1.3	27.4 27.8	72.6 68.4
31	accept unique differences of individuals	nutrition general	-- --	-- 1.3	-- 5.1	-- 1.3	33.9 39.2	66.1 53.2
32	recognize own limitations	nutrition general	-- --	-- 1.3	4.8 3.8	1.6 2.6	32.3 34.6	61.3 57.7
33	substantiate basic nutritional information	nutrition general	6.6 9.3	-- 5.3	13.1 16.0	-- --	36.1 44.0	44.3 25.3

Table 20: (cont.)

item no.	competency statements	position emphasis	priority ratings							
			no prior- ity	very low prior- ity	low prior- ity	medium prior- ity	high prior- ity	very high prior- ity		
			%	%	%	%	%	%		%
34	follow procedures to implement nutritional care	nutrition general	4.8 9.1	-- 1.3	1.6 5.2	-- --	27.4 42.9	66.1 41.6		
35	check food deliveries against specifications and purchase orders	nutrition general	90.0 31.6	1.7 5.1	3.3 3.8	-- 2.5	3.3 20.3	1.7 36.7		
36	direct the service and delivery of food	nutrition general	36.1 8.9	6.6 --	16.4 6.3	-- --	14.8 36.7	26.2 48.1		
37	maintain food sales and merchandising systems	nutrition general	98.3 61.5	-- 6.4	-- 5.1	-- --	1.7 15.4	-- 11.5		
38	assist dietitian with employee classes	nutrition general	45.0 21.1	3.3 6.6	18.3 13.2	-- 1.3	25.0 31.6	8.3 26.3		
39	assist in development of specifications	nutrition general	90.0 44.9	1.7 3.8	3.3 11.5	-- --	5.0 17.9	-- 21.8		
40	collect specific information for nutritional assessment	nutrition general	6.5 23.7	-- 9.2	12.9 5.3	-- 1.3	35.5 32.9	45.2 27.6		
41	demonstrate knowledge of basic nutrition facts	nutrition general	-- 1.3	-- 1.3	-- 5.2	-- 2.6	6.6 35.1	93.4 54.5		

Table 20: (cont.)

item no.	competency statements	position emphasis	priority ratings							
			no prior- ity	very low prior- ity	low prior- ity	medium prior- ity	high prior- ity	very high prior- ity		
			%	%	%	%	%	%		
42	participate in a program of self-development	nutrition general	3.3 3.8	3.3 3.8	11.5 7.6	-- 1.3	47.5 41.8	34.4 41.8		
43	use problem-solving techniques	nutrition general	43.3 6.3	1.7 3.8	11.7 13.9	-- --	33.3 41.8	10.0 34.2		
44	provide basic information to lay individuals and groups	nutrition general	16.1 16.9	3.2 6.5	9.7 18.2	-- --	41.9 39.0	29.0 19.5		
45	compile information for monthly reports	nutrition general	73.8 35.5	3.3 5.3	6.6 14.5	-- 2.6	8.2 18.4	8.2 23.7		
46	apply nutrition principles to menu planning	nutrition general	20.0 16.0	1.7 4.0	6.7 5.3	-- --	25.0 36.0	46.7 38.7		
47	determine time, equipment, and personnel priorities	nutrition general	47.5 19.5	6.6 1.3	8.2 6.5	-- 3.9	14.8 31.2	23.0 37.7		
48	recommend facility and equipment improvements	nutrition general	76.3 30.8	5.1 6.4	6.8 19.2	-- --	8.5 24.4	3.4 19.2		
49	exhibit a broad knowledge of food composition and preparation principles	nutrition general	32.2 16.0	3.4 6.7	18.6 20.0	5.1 1.3	25.4 24.0	15.3 32.0		

Table 20: (cont.)

item no.	competency statements	position emphasis	priority ratings					
			no prior- ity	very low prior- ity	low prior- ity	medium prior- ity	high prior- ity	very high prior- ity
			%	%	%	%	%	%
50	assist the dietitian with revising and implementing employee policies	nutrition general	25.0 16.0	10.0 8.0	26.7 13.3	3.3 1.3	25.0 32.0	10.0 29.3
51	assess effectiveness of nutritional and dietetic services	nutrition general	14.8 19.5	3.3 3.9	18.0 16.9	1.6 --	29.5 39.0	32.8 20.8
52	understand management system	nutrition general	42.6 11.7	13.1 2.6	16.4 10.4	-- 1.3	19.7 42.9	8.2 31.2
53	participate in professional activities	nutrition general	6.7 3.9	10.0 9.2	23.3 25.0	3.3 --	40.0 35.5	16.7 26.3
54	am assertive in appropriate situations	nutrition general	-- --	1.6 1.3	11.3 7.9	-- 1.3	56.5 51.3	30.6 38.2
55	follow policies and procedures in personnel supervision	nutrition general	27.9 3.9	3.3 1.3	6.6 3.9	-- --	42.6 28.6	19.7 62.3
56	compile inventories and other operational data	nutrition general	78.7 32.9	1.6 3.9	9.8 7.9	-- 2.6	3.3 23.7	6.6 28.9
57	direct the preparation of quantity food	nutrition general	88.5 39.5	3.3 --	6.6 5.3	-- --	1.6 25.0	-- 30.3

Table 20: (cont.)

item no.	competency statements	position emphasis	priority ratings					
			no prior- ity	very low prior- ity	low prior- ity	medium prior- ity	high prior- ity	very high prior- ity
			%	%	%	%	%	%
58	assist with cost control	nutrition general	85.2 46.1	1.6 6.6	4.9 3.9	-- 1.3	3.3 14.5	4.9 27.6
59	maintain records for evaluation of nutrition and dietetic services	nutrition general	54.1 41.6	6.6 3.9	13.1 10.4	-- 1.3	18.0 24.7	8.2 18.2
60	cope with diverse value systems of physicians, co-workers, and patients	nutrition general	6.5 14.7	-- 1.3	11.3 10.7	3.2 --	32.3 37.3	46.8 36.0
61	evaluate own professional competence	nutrition general	1.6 11.8	3.3 2.6	9.8 6.6	-- --	49.2 51.3	36.1 27.6
62	assist in the planning and service of special functions	nutrition general	45.9 20.8	6.6 6.5	26.2 15.6	1.6 2.6	14.8 27.3	4.9 27.3
63	prepare written work schedules	nutrition general	85.2 32.9	3.3 2.6	1.6 5.3	-- 1.3	8.2 18.4	1.6 39.5
64	attend staff meetings and prepare appropriate records	nutrition general	75.4 44.2	3.3 5.2	8.2 6.5	3.3 2.6	3.3 18.2	6.6 23.4
65	direct employees in use of standardized recipes	nutrition general	86.9 35.9	3.3 1.3	4.9 7.7	-- 1.3	4.9 25.6	-- 28.2

Table 20: (cont.)

item no.	competency statements	position emphasis	priority ratings					
			no prior-ity	very low prior-ity	low prior-ity	medium prior-ity	high prior-ity	very high prior-ity
			%	%	%	%	%	%
66	assist in updating job descriptions	nutrition general	55.7 16.0	6.6 4.0	16.4 16.0	1.6 1.3	14.8 25.3	4.9 37.3
67	am effective in oral communication	nutrition general	-- --	-- --	3.2 2.7	1.6 1.3	38.7 38.7	56.5 57.3
68	collect information for planning a system of nutrition and dietetic services	nutrition general	22.6 27.3	1.6 1.3	11.3 6.5	-- 1.3	37.1 37.7	27.4 26.0
69	examine the role of the dietetic technician	nutrition general	9.8 21.1	1.6 15.8	16.4 10.5	-- 1.3	39.3 28.9	32.8 22.4
70	follow established procedures for nutritional and dietetic services	nutrition general	-- 1.3	-- 1.3	3.2 3.9	-- 1.3	32.3 42.1	64.5 50.0
71	demonstrate personal characteristics which mark leadership	nutrition general	-- --	1.6 1.3	8.2 3.9	4.9 --	42.6 40.3	42.6 54.5
72	gather information regarding food usage and wastage	nutrition general	60.7 23.1	9.8 5.1	14.8 14.1	1.6 1.3	13.1 30.8	-- 25.6

Table 20: (cont.)

item no.	competency statements	position emphasis	priority ratings					
			no prior- ity	very low prior- ity	low prior- ity	medium prior- ity	high prior- ity	very high prior- ity
			%	%	%	%	%	%
73	direct employees to follow nutritional care policies and procedures	nutrition general	31.1 6.5	3.3 --	14.8 7.8	1.6 1.3	27.9 41.6	21.3 42.9
74	apply the techniques of work simplification	nutrition general	34.4 9.0	4.9 3.8	8.2 12.8	-- --	31.1 37.2	21.3 37.2

Table 21: Percentage distribution of supervisors' ratings of dietetic technicians on performance of selected competencies

item no.	competency statements	position emphasis ¹	performance ratings						superior
			not a respon- sibility	unsat- isfac- tory	needs improve- ment	satis- factory	above average		
			%	%	%	%	%	%	
1	communicate in appropriate written formats	nutrition general	2.1 3.0	-- --	2.1 7.6	47.9 47.0	37.5 31.8	10.4 10.6	
2	understand how people learn	nutrition general	6.4 1.5	-- --	21.3 21.5	40.4 46.2	27.7 27.7	4.3 3.1	
3	use a variety of reference materials	nutrition general	2.0 4.7	2.0 --	10.2 10.9	28.6 39.1	42.9 31.3	14.3 14.1	
4	estimate required quantity of food	nutrition general	81.6 40.0	-- 3.1	4.1 6.2	4.1 20.0	8.2 21.5	2.0 9.2	
5	plan to meet educational needs of assigned individuals	nutrition general	26.5 24.6	2.0 --	6.1 7.7	24.5 35.4	30.6 29.2	10.2 3.1	
6	demonstrate empathy for clients and employees	nutrition general	-- --	-- 1.5	8.2 7.6	28.6 25.8	36.7 40.9	26.5 24.2	

¹Nutrition = Technicians reporting emphasis in present position on nutrition care (N varies from 47 to 49).

General = Technicians reporting equal emphasis in present position on nutrition care and food-service management (N varies from 60 to 66).

Table 21: (cont.)

item no.	competency statements	position emphasis	performance ratings							
			not a respon- sibility	unsat- isfac- tory	needs improve- ment	satis- factory	above average	supe- rior		
			%	%	%	%	%	%		%
7	train employees to perform effectively	nutrition general	55.1 18.2	4.1 1.5	6.1 9.1	14.3 28.8	18.4 33.3	2.0 9.1		
8	consider ideas and opinions of others	nutrition general	-- --	-- 1.5	8.2 --	34.7 36.4	40.8 39.4	16.3 22.7		
9	check trays for quality, portion sizes, and accuracy	nutrition general	41.7 18.2	-- 1.5	2.1 6.1	8.3 18.2	33.3 31.8	14.6 24.2		
10	distinguish between nutrition facts and fads	nutrition general	4.1 12.1	2.0 --	4.1 13.6	32.7 28.8	42.9 33.3	14.3 12.1		
11	delegate duties to other personnel	nutrition general	43.8 12.1	4.2 --	6.3 7.6	16.7 39.4	27.1 27.3	2.1 13.6		
12	adhere to professional standards	nutrition general	-- --	-- --	8.2 10.6	20.4 24.2	34.7 30.3	36.7 34.8		
13	individualize instructional techniques	nutrition general	22.4 12.1	2.0 --	10.2 9.1	18.4 43.9	36.7 22.7	10.2 12.1		
14	use effective teaching strategies	nutrition general	25.0 9.7	2.1 --	14.6 6.1	18.8 40.3	31.3 29.0	8.3 4.8		
15	communicate with employees	nutrition general	44.9 21.2	-- 1.5	14.3 10.6	24.5 31.8	12.2 21.2	4.1 13.6		

Table 21: (cont.)

item no.	competency statements	position emphasis	performance ratings									
			not a respon- sibility	unsat- isfac- tory	needs improve- ment	satis- factory	above average	supe- rior				
			%	%	%	%	%	%				
16	recommend changes in foodservice and production systems	nutrition general	40.8 15.2	2.0 --	6.1 6.1	22.4 31.8	26.5 33.3	2.0 13.6				
17	provide dietetic counseling to assigned individuals	nutrition general	12.2 26.2	-- 1.5	10.2 4.6	26.5 21.5	38.8 32.3	12.2 13.8				
18	supervise food production processes effectively	nutrition general	73.5 39.4	2.0 --	4.1 4.5	10.2 21.2	8.2 18.2	2.0 16.7				
19	demonstrate positive human relations skills	nutrition general	-- 1.5	2.0 1.5	14.3 9.1	36.7 36.4	32.7 37.9	14.3 13.6				
20	determine recipe yields	nutrition general	95.9 57.6	-- 4.5	-- 6.1	2.0 9.1	2.0 16.7	-- 6.1				
21	improve standards of food preparation	nutrition general	83.7 43.9	2.0 3.0	2.0 6.1	4.1 13.6	8.2 25.8	-- 7.6				
22	use basic accounting procedures and practices	nutrition general	89.8 59.4	2.0 1.6	-- 3.1	4.1 15.6	4.1 14.1	-- 6.3				
23	report departmental status to the dietitian	nutrition general	14.3 6.2	-- 1.5	4.1 6.2	36.7 32.3	32.7 21.5	12.2 32.3				
24	maintain a preventative maintenance program for all equipment	nutrition general	91.8 58.5	-- 1.5	-- 1.5	2.0 20.0	4.1 9.2	2.0 9.2				

Table 21: (cont.)

item no.	competency statements	position emphasis	performance ratings											
			not a respon- sibility		unsat- isfac- tory		needs improve- ment		satis- factory		above average		super- ior	
			%	%	%	%	%	%	%	%	%	%	%	%
25	assist in maintaining a budget	nutrition general	87.5 63.6	2.1 --	-- 1.5	8.3 18.2	-- 4.5	2.1 12.1						
26	collect information for evaluating nutrition care	nutrition general	32.7 39.4	-- 1.5	6.1 7.6	16.3 24.2	6.1 9.1	38.8 18.2						
27	assess educational needs of individuals and groups	nutrition general	37.5 43.9	2.1 --	14.6 9.1	10.4 25.8	6.3 1.5	29.2 19.7						
28	use techniques of leadership for small group interactions	nutrition general	42.9 27.3	-- 1.5	16.3 10.6	20.4 31.8	4.1 4.5	16.3 24.2						
29	make on-the-job adjustments when unexpected situations arise	nutrition general	2.0 1.5	-- 1.5	4.1 9.1	36.7 28.8	12.2 24.2	44.9 34.8						
30	demonstrate self-confidence	nutrition general	-- --	-- --	12.2 4.5	20.4 30.3	20.4 27.3	46.9 37.9						
31	accept unique differences of individuals	nutrition general	-- --	2.0 1.5	8.2 13.6	46.9 30.3	18.4 16.7	24.5 37.9						
32	recognize own limitations	nutrition general	-- --	4.1 --	6.1 13.8	36.7 27.7	20.4 16.9	32.7 41.5						
33	substantiate basic nutritional information	nutrition general	4.3 14.1	-- --	4.3 14.1	36.2 28.1	14.9 12.5	40.4 31.3						

Table 21: (cont.)

item no.	competency statements	position emphasis	performance ratings					
			not a respon- sibility	unsat- isfac- tory	needs improve- ment	satis- factory	above average	supe- rior
			%	%	%	%	%	%
34	follow procedures to implement nutritional care	nutrition general	6.1 12.1	-- --	2.0 1.5	28.6 28.8	42.9 33.3	20.4 24.2
35	check food deliveries against specifications and purchase orders	nutrition general	91.7 56.1	2.1 --	4.2 1.5	2.1 19.7	-- 10.6	-- 12.1
36	direct the service and delivery of food	nutrition general	58.3 19.7	-- 1.5	4.2 3.0	12.5 21.2	22.9 33.3	2.1 21.2
37	maintain food sales and merchandising systems	nutrition general	95.8 77.3	-- --	-- 1.5	2.1 4.5	-- 10.6	2.1 6.1
38	assist dietitian with employee classes	nutrition general	49.0 26.2	-- --	4.1 6.2	22.4 29.2	18.4 26.2	6.1 12.3
39	assist in development of specifications	nutrition general	93.9 67.7	2.0 1.5	-- 3.1	4.1 10.8	-- 7.7	-- 9.2
40	collect specific information for nutritional assessment	nutrition general	18.4 27.7	-- --	6.1 7.7	30.6 23.1	34.7 24.6	10.2 16.9
41	demonstrate knowledge of basic nutrition facts	nutrition general	2.0 3.0	-- --	2.0 7.6	20.4 28.8	44.9 27.3	30.6 33.3

Table 21: (cont.)

item no.	competency statements	position emphasis	performance ratings					
			not a respon- sibility	unsat- isfac- tory	needs improve- ment	satis- factory	above average	supe- rior
			%	%	%	%	%	%
42	participate in a program of self-development	nutrition general	10.2 3.1	-- 1.5	8.2 10.8	28.6 27.7	20.4 26.2	32.7 30.8
43	use problem-solving techniques	nutrition general	36.7 13.8	-- 1.5	20.4 10.8	24.5 33.8	18.4 26.2	-- 13.8
44	provide basic information to lay individuals and groups	nutrition general	10.2 19.7	-- --	6.1 3.0	28.6 33.3	44.9 25.8	10.2 18.2
45	compile information for monthly reports	nutrition general	71.4 41.5	-- 1.5	-- 1.5	14.3 24.6	10.2 13.8	4.1 16.9
46	apply nutrition principles to menu planning	nutrition general	20.4 30.8	-- 1.5	4.1 4.6	20.4 26.2	38.8 20.0	16.3 16.9
47	determine time, equipment, and personnel priorities	nutrition general	32.7 18.5	-- --	10.2 7.7	28.6 30.8	16.3 21.5	12.2 21.5
48	recommend facility and equipment improvements	nutrition general	79.6 38.5	2.0 1.5	-- 1.5	8.2 27.7	6.1 20.0	4.1 10.8
49	exhibit a broad knowledge of food composition and prepara- tion principles	nutrition general	26.5 12.5	4.1 3.1	18.4 12.5	38.8 35.9	8.2 31.3	4.1 4.7

Table 21: (cont.)

item no.	competency statements	position emphasis	not a					performance ratings				
			respon- sibility	unsat- isfac- tory	needs improve- ment	satis- factory	above average	supe- rior				
			%	%	%	%	%	%				
50	assist the dietitian with revis- ing and implementing employee policies	nutrition general	40.8 23.1	-- --	10.2 --	24.5 38.5	16.3 27.7	18.2 10.8				
51	assess effectiveness of nutri- tional and dietetic services	nutrition general	24.5 31.3	-- --	8.2 7.8	24.5 21.9	34.7 29.7	8.2 9.4				
52	understand management system	nutrition general	44.9 23.4	2.0 1.6	8.2 9.4	28.6 35.9	16.3 15.6	-- 14.1				
53	participate in professional activities	nutrition general	2.1 4.8	4.2 --	16.7 16.1	41.7 41.9	27.1 25.8	8.3 11.3				
54	am assertive in appropriate situations	nutrition general	-- --	2.1 3.1	14.3 15.4	30.6 32.3	38.8 24.6	14.3 24.6				
55	follow policies and procedures in personnel supervision	nutrition general	28.6 7.7	-- --	6.1 7.7	34.7 35.4	22.4 23.1	8.2 26.2				
56	compile inventories and other operational data	nutrition general	81.6 53.8	-- 1.5	2.0 3.1	12.2 23.1	2.0 10.8	2.0 7.7				
57	direct the preparation of quantity food	nutrition general	95.7 54.7	-- 1.6	-- 4.7	2.1 17.2	2.1 14.1	-- 7.8				

Table 21: (cont.)

item no.	competency statements	position emphasis	performance ratings											
			not a respon- sibility		unsat- isfac- tory		needs improve- ment		satis- factory		above average		supe- rior	
			%	%	%	%	%	%	%	%	%	%	%	%
58	assist with cost control	nutrition general	83.7 63.1		2.0 --		2.0 10.8		10.2 12.3		2.0 9.2		-- 4.6	
59	maintain records for evaluation of nutrition and dietetic services	nutrition general	42.9 53.1		-- 1.6		4.1 6.3		24.5 18.8		22.4 15.6		6.1 4.7	
60	cope with diverse value systems of physicians, co-workers, and patients	nutrition general	8.2 15.4		-- 1.5		10.2 18.5		38.8 26.2		36.7 30.8		6.1 7.7	
61	evaluate own professional competence	nutrition general	10.4 8.3		-- --		10.4 15.0		39.6 33.3		37.5 33.3		2.1 10.0	
62	assist in the planning and service of special functions	nutrition general	71.4 40.0		-- --		-- 1.5		18.4 23.1		8.2 21.5		2.0 13.8	
63	prepare written work schedules	nutrition general	91.7 44.6		-- --		-- 1.5		4.2 21.5		2.1 16.9		2.1 15.4	
64	attend staff meetings and prepare appropriate records	nutrition general	85.7 56.3		-- 1.6		4.1 3.1		4.1 17.2		4.1 17.2		2.0 4.7	
65	direct employees in use of standardized recipes	nutrition general	91.7 55.6		-- 4.8		2.1 4.8		2.1 12.7		2.1 11.1		2.1 11.1	

Table 21: (cont.)

item no.	competency statements	position emphasis	performance ratings							
			not a respon- sibility	unsat- isfac- tory	needs improve- ment	satis- factory	above average	supe- rior		
			%	%	%	%	%	%		%
66	assist in updating job descriptions	nutrition general	70.8 36.9	-- --	6.3 3.1	12.5 30.8	8.3 20.0	2.1 9.2		
67	am effective in oral communication	nutrition general	-- 1.5	-- --	6.3 15.4	43.8 29.2	35.4 29.2	14.6 24.6		
68	collect information for planning a system of nutrition and dietetic services	nutrition general	36.7 39.1	-- --	2.0 4.7	28.6 25.0	30.6 21.9	2.0 9.4		
69	examine the role of the dietetic technician	nutrition general	18.8 14.3	2.1 1.6	14.6 12.7	27.1 25.4	27.1 34.9	10.4 11.1		
70	follow established procedures for nutritional and dietetic services	nutrition general	6.3 9.1	-- --	-- 7.6	35.4 30.3	45.8 33.3	12.5 19.7		
71	demonstrate personal characteristics which mark leadership	nutrition general	-- --	-- --	12.5 18.2	35.4 21.2	35.4 28.8	16.7 31.8		
72	gather information regarding food usage and wastage	nutrition general	65.3 42.4	-- 1.5	4.1 6.1	18.4 21.2	12.2 22.7	-- 6.1		

Table 21: (cont..)

item no.	competency statements	position emphasis	performance ratings					
			not a respon- sibility	unsat- isfac- tory	needs improve- ment	satis- factory	above average	supe- rior
			%	%	%	%	%	%
73	direct employees to follow nutritional care policies and procedures	nutrition general	30.6 18.2	-- --	6.1 7.6	30.6 28.8	30.6 27.3	2.0 18.2
74	apply the techniques of work simplification	nutrition general	34.7 16.9	2.0 4.6	12.2 7.7	30.6 32.3	16.3 26.2	4.1 12.3

Table 22: Percentage distribution of supervisors' ratings of degree of supervision needed by dietetic technicians in performance of selected competencies

item no.	competency statements	position ¹ emphasis ¹	degree of supervision ratings			
			not expected of a technician	could per-form with close supervision	could per-form with general supervision	could per-form with little supervision
			%	%	%	%
1	communicate in appropriate written formats	nutrition general	2.1 3.1	-- --	31.9 44.6	66.0 52.3
2	understand how people learn	nutrition general	6.3 3.1	6.3 12.3	52.1 52.3	35.4 32.3
3	use a variety of reference materials	nutrition general	2.0 4.8	4.1 8.1	36.7 33.9	57.1 53.2
4	estimate required quantity of food	nutrition general	65.2 34.4	2.2 3.3	17.4 23.0	15.2 39.3
5	plan to meet educational needs of assigned individuals	nutrition general	22.4 19.0	10.2 14.3	38.8 36.5	28.6 30.2
6	demonstrate empathy for clients and employees	nutrition general	-- --	2.0 7.7	16.3 27.7	81.6 64.6

¹Nutrition = Technicians reporting emphasis in present position on nutrition care (N varies from 45 to 49).

General = Technicians reporting equal emphasis in present position on nutrition care and foodservice management (N varies from 56 to 65).

Table 22: (cont.)

item no.	competency statements	position emphasis	degree of supervision ratings			
			not expected of a technician	could per- form with close supervision	could per- form with general supervision	could per- form with little supervision
			%	%	%	%
7	train employees to perform effectively	nutrition general	41.7 15.4	10.4 4.6	29.2 41.5	18.8 38.5
8	consider ideas and opinions of others	nutrition general	-- --	2.1 3.3	34.0 28.3	63.8 68.3
9	check trays for quality, portion sizes, and accuracy	nutrition general	37.5 12.7	2.1 1.6	6.3 15.9	54.2 69.8
10	distinguish between nutrition facts and fads	nutrition general	2.0 12.9	6.1 8.1	32.7 37.1	59.2 41.9
11	delegate duties to other personnel	nutrition general	34.7 12.5	8.2 3.1	32.7 34.4	24.5 50.0
12	adhere to professional standards	nutrition general	-- --	-- 4.7	26.5 28.1	73.5 67.2
13	individualize instructional techniques	nutrition general	20.4 9.5	10.2 4.8	28.6 50.8	40.8 34.9
14	use effective teaching strategies	nutrition general	22.9 6.7	14.6 8.3	33.3 50.0	29.2 30.0

Table 22: (cont.)

item no.	competency statements	position emphasis	degree of supervision ratings			
			not expected of a technician	could form with close supervision	could form with general supervision	could per-form with little supervision
			%	%	%	%
15	communicate with employees	nutrition general	37.5 19.0	8.3 7.9	31.3 34.9	22.9 38.1
16	recommend changes in foodservice and production systems	nutrition general	40.8 14.1	6.1 3.1	30.6 35.9	22.4 46.9
17	provide dietetic counseling to assigned individuals	nutrition general	10.2 22.6	10.2 9.7	28.6 21.0	51.0 46.8
18	supervise food production processes effectively	nutrition general	61.7 30.2	10.6 4.8	12.8 20.6	14.9 44.4
19	demonstrate positive human relations skills	nutrition general	-- 1.6	6.1 3.1	32.7 39.1	61.2 56.3
20	determine recipe yields	nutrition general	80.4 49.2	6.5 6.3	10.9 15.9	2.2 28.6
21	improve standards of food preparation	nutrition general	70.2 34.9	4.3 6.3	23.4 23.8	2.1 34.9
22	use basic accounting procedures and practices	nutrition general	80.9 53.2	6.4 3.2	8.5 16.1	4.3 27.4

Table 22: (cont.)

item no.	competency statements	position emphasis	degree of supervision ratings			
			not expected of a technician	could per-form with close supervision	could per-form with general supervision	could per-form with little supervision
			%	%	%	%
23	report departmental status to the dietitian	nutrition general	12.2 1.7	-- 1.7	26.5 30.5	61.2 66.1
24	maintain a preventative maintenance program for all equipment	nutrition general	84.8 48.4	2.2 3.2	8.7 17.7	4.3 30.6
25	assist in maintaining a budget	nutrition general	76.1 58.1	6.5 1.6	17.4 24.2	-- 16.1
26	collect information for evaluating nutrition care	nutrition general	28.6 33.9	6.1 8.1	32.7 25.8	32.7 32.3
27	assess educational needs of individuals and groups	nutrition general	34.7 41.3	14.3 6.3	24.5 31.7	26.5 20.6
28	use techniques of leadership for small group interactions	nutrition general	36.7 25.4	8.2 9.5	34.7 28.6	20.4 36.5
29	make on-the-job adjustments when unexpected situations arise	nutrition general	2.0 --	2.0 6.3	28.6 25.4	67.3 68.3
30	demonstrate self-confidence	nutrition general	-- --	2.0 3.1	34.7 23.4	63.3 73.4

Table 22: (cont.)

item no.	competency statements	position emphasis	degree of supervision ratings			
			not expected of a technician	could per- form with close supervision	could per- form with general supervision	could per- form with little supervision
			%	%	%	%
31	accept unique differences of individuals	nutrition general	-- --	6.1 4.8	34.7 33.9	59.2 61.3
32	recognize own limitations	nutrition general	-- 1.7	8.3 5.0	31.3 40.0	60.4 53.3
33	substantiate basic nutritional information	nutrition general	2.1 12.9	2.1 6.5	44.7 33.9	51.1 46.8
34	follow procedures to implement nutritional care	nutrition general	4.1 10.9	4.1 4.7	32.7 26.6	59.2 57.8
35	check food deliveries against specifications and purchase orders	nutrition general	77.8 48.4	6.7 3.2	4.4 9.7	11.1 38.7
36	direct the service and delivery of food	nutrition general	53.2 15.9	-- --	21.3 30.2	25.5 54.0
37	maintain food sales and merchandising systems	nutrition general	87.0 69.8	2.2 --	6.5 14.3	4.3 15.9
38	assist dietitian with employee classes	nutrition general	36.7 23.4	8.2 6.3	30.6 29.7	24.5 40.6

Table 22: (cont.)

item no.	competency statements	position emphasis	degree of supervision ratings			
			not expected of a technician	could per- form with close supervision	could per- form with general supervision	could per- form with little supervision
			%	%	%	%
39	assist in development of specifications	nutrition general	83.0 61.9	10.6 3.2	4.3 14.3	2.1 20.6
40	collect specific information for nutritional assessment	nutrition general	12.2 22.2	6.1 6.3	40.8 28.6	40.8 42.9
41	demonstrate knowledge of basic nutrition facts	nutrition general	2.0 4.6	-- 6.2	22.4 24.6	75.5 64.6
42	participate in a program of self-development	nutrition general	8.2 3.2	4.1 1.6	28.6 38.7	59.2 56.5
43	use problem-solving techniques	nutrition general	32.7 10.9	14.3 7.8	32.7 40.6	20.4 40.6
44	provide basic information to lay individuals and groups	nutrition general	8.2 15.6	4.1 3.1	42.9 39.1	44.9 42.2
45	compile information for monthly reports	nutrition general	59.2 35.9	4.1 6.3	10.2 10.9	26.5 46.9
46	apply nutrition principles to menu planning	nutrition general	18.4 25.8	2.0 6.5	28.6 29.0	51.0 38.7

Table 22: (cont.)

item no.	competency statements	position emphasis	degree of supervision ratings			
			not expected of a technician	could per- form with close supervision	could per- form with general supervision	could per- form with little supervision
			%	%	%	%
47	determine time, equipment, and personnel priorities	nutrition general	24.4 15.6	11.1 3.1	31.1 29.7	33.3 51.6
48	recommend facility and equip- ment improvements	nutrition general	70.2 33.9	6.4 4.8	8.5 30.6	14.9 30.6
49	exhibit a broad knowledge of food composition and preparation principles	nutrition general	19.1 8.2	10.6 13.1	42.6 47.5	27.7 31.1
50	assist the dietitian with revising and implementing employee policies	nutrition general	36.7 21.9	6.1 3.1	38.8 39.1	18.4 35.9
51	assess effectiveness of nutriti- tional and dietetic services	nutrition general	20.4 26.7	8.2 6.7	38.8 31.7	32.7 35.0
52	understand management system	nutrition general	41.7 18.0	14.6 11.5	29.2 37.7	14.6 32.8
53	participate in professional activities	nutrition general	2.2 7.1	4.3 3.6	30.4 33.9	63.0 55.4
54	be assertive in appropriate situations	nutrition general	-- --	4.2 8.1	47.9 24.2	47.9 67.7

Table 22: (cont.)

item no.	competency statements	position emphasis	degree of supervision ratings			
			not expected of a technician	could per- form with close supervision	could per- form with general supervision	could per- form with little supervision
			%	%	%	%
55	follow policies and procedures in personnel supervision	nutrition general	14.6 6.3	12.5 4.8	27.1 28.6	45.8 60.3
56	compile inventories and other operational data	nutrition general	66.7 45.2	6.3 4.8	20.8 16.1	6.3 33.9
57	direct the preparation of quantity food	nutrition general	82.2 45.9	2.2 8.2	11.1 14.8	4.4 31.1
58	assist with cost control	nutrition general	67.4 55.6	8.7 4.8	13.0 23.8	10.9 15.9
59	maintain records for evaluation of nutrition and dietetic services	nutrition general	31.3 42.6	10.4 9.8	31.3 21.3	27.1 26.2
60	cope with diverse value systems of physicians, co-workers, and patients	nutrition general	6.1 11.7	14.3 8.3	40.8 38.3	38.8 41.7
61	evaluate own professional competence	nutrition general	10.6 7.1	8.5 5.4	40.4 37.5	40.4 50.0
62	assist in the planning and service of special functions	nutrition general	60.4 34.9	2.1 --	20.8 22.2	16.7 42.9

Table 22: (cont.)

item no.	competency statements	position emphasis	degree of supervision ratings					
			not expected of a technician	could per- form with close supervision	could per- form with general supervision	could per- form with little supervision	%	%
63	prepare written work schedules	nutrition general	76.1 39.7	4.3 3.2	15.2 17.5	4.3 39.7		
64	attend staff meetings and prepare appropriate records	nutrition general	74.5 49.2	4.3 4.9	19.1 21.3	2.1 24.6		
65	direct employees in use of standardized recipes	nutrition general	75.6 50.0	4.4 3.3	15.6 20.0	4.4 26.7		
66	assist in updating job descriptions	nutrition general	58.3 30.6	8.3 6.5	25.0 29.0	8.3 33.9		
67	am effective in oral communication	nutrition general	-- --	4.3 9.5	31.9 28.6	63.8 61.9		
68	collect information for planning a system of nutrition and dietetic services	nutrition general	28.6 31.1	8.2 9.8	38.8 27.9	24.5 31.1		
69	examine the role of the dietetic technician	nutrition general	14.6 15.0	6.3 8.3	35.4 28.3	43.8 48.3		
70	follow established procedures for nutritional and dietetic services	nutrition general	6.4 8.1	4.3 3.2	31.9 32.3	57.4 56.5		

Table 22: (cont.)

item no.	competency statements	position emphasis	degree of supervision ratings			
			not expected of a technician	could per- form with close supervision	could per- form with general supervision	could per- form with little supervision
			%	%	%	%
71	demonstrate personal character- istics which mark leadership	nutrition general	-- --	6.4 9.4	25.5 26.6	68.1 64.1
72	gather information regarding food usage and wastage	nutrition general	50.0 33.9	10.9 1.6	17.4 29.0	21.7 35.5
73	direct employees to follow nutri- tional care policies and procedures	nutrition general	27.1 12.9	2.1 3.2	29.2 33.9	41.7 50.0
74	apply the techniques of work simplification	nutrition general	28.6 12.5	10.2 6.3	32.7 40.6	28.6 40.6

Table 23: Correlation coefficients between supervisory ratings of technicians' performance and degree of supervision needed for selected competencies¹

item no.	r ²	item no.	r	item no.	r	item no.	r
1	0.49	20	0.84	38	0.79	56	0.82
2	0.71	21	0.83	39	0.90	57	0.84
3	0.70	22	0.87	40	0.82	58	0.77
4	0.82	23	0.69	41	0.62	59	0.82
5	0.85	24	0.85	42	0.67	60	0.79
6	0.57	25	0.88	43	0.84	61	0.73
7	0.82	26	0.88	44	0.79	62	0.83
8	0.50	27	0.91	45	0.83	63	0.90
9	0.81	28	0.85	46	0.88	64	0.85
10	0.78	29	0.57	47	0.83	65	0.81
11	0.83	30	0.45	48	0.84	66	0.86
12	0.63	31	0.56	49	0.73	67	0.57
13	0.83	32	0.51	50	0.86	68	0.85
14	0.75	33	0.75	51	0.85	69	0.75
15	0.82	34	0.81	52	0.87	70	0.71
16	0.86	35	0.80	53	0.56	71	0.66
17	0.84	36	0.85	54	0.67	72	0.76
18	0.86	37	0.77	55	0.67	73	0.82
19	0.57					74	0.79

¹Performance scale = 1, not a responsibility of the technician to 6, superior.

Degree of supervision scale = 1, not expected of a technician to 4, could perform with little or no supervision.

²All values significant (P = 0.001); N varies from 119 to 133.

Table 24: Correlation coefficients between technicians' ratings of importance and supervisory ratings of technicians' performance for selected competencies¹

item no.	r ²	item no.	r	item no.	r	item no.	r
1	0.08n.s.	20	0.64	38	0.32	56	0.52
2	0.10n.s.	21	0.54	39	0.45	57	0.56
3	0.19	22	0.46	40	0.38	58	0.46
4	0.45	23	0.24	41	0.24	59	0.08n.s.
5	0.17	24	0.42	42	0.17	60	0.30
6	0.08n.s.	25	0.45	43	0.33	61	0.14n.s.
7	0.45	26	0.24	44	0.27	62	0.48
8	0.17	27	0.33	45	0.47	63	0.64
9	0.35	28	0.35	46	0.35	64	0.46
10	0.16	29	-0.03n.s.	47	0.28	65	0.64
11	0.52	30	0.09n.s.	48	0.48	66	0.46
12	0.07	31	-0.07n.s.	49	0.32	67	-0.16
13	0.27	32	-0.03n.s.	50	0.40	68	0.06n.s.
14	0.26	33	0.35	51	0.35	69	0.24
15	0.34	34	0.43	52	0.29	70	0.22
16	0.32	35	0.62	53	0.24	71	0.08n.s.
17	0.46	36	0.43	54	0.15	72	0.28
18	0.58	37	0.52	55	0.25	73	0.22
19	0.11n.s.					74	0.33

¹Importance scale = 1, not a responsibility to 5, essential.
Performance scale = 1, not a responsibility of the technician to 6, superior.

²n.s. indicates nonsignificant coefficients; $r .15, P \leq .05$;
 $r .20, P \leq .01$; $r .27, P \leq .001$. N varies from 123 to 132.

RATINGS OF DIETETIC TECHNICIAN COMPETENCIES
BY TECHNICIANS AND SUPERVISORS

by

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B.S., Fontbonne College, 1976

AN ABSTRACT OF A MASTER'S THESIS

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ABSTRACT

This research utilized the technician competencies in foodservice management compiled by Holland, and in nutrition care by Howard and Schiller as the basis for the instruments developed. The purpose was to identify competencies relevant for technician practice that will provide input for design of a dietetic technician curriculum. The objectives of this study were to: (a) analyze technicians' ratings of the importance and time consideration of various competencies, (b) analyze ratings of the immediate supervisors concerning the dietetic technician's performance and amount of supervision required for the various competencies, (c) identify the type of program the dietetic technicians consider would provide the best preparatory background for the present position, and (d) present recommendations concerning curriculum design.

Dietetic technician members (N = 454) of The American Dietetic Association (ADA) and graduates (N = 211) of selected ADA approved dietetic technician programs were sent two questionnaires: one for the dietetic technician and one for the technician's immediate supervisor. Each instrument consisted of two parts, one requesting biographical data and the other asking for responses to each of seventy-four competency statements on the rating scales. Technicians were asked to rate each of the competencies separately on five point scales for importance and time consideration. A priority score was developed to analyze the importance and time consideration scores simultaneously. Technicians' supervisors were requested to rate technicians' job performance and degree of supervision needed for each competency. Data from 134 matched questionnaires

(technician and supervisor) and an additional fifty-eight from technicians with no matching supervisor response were analyzed.

Since only a small number of respondents ($N = 18$) indicated foodservice management was the best background for present job responsibilities, analysis was limited to technicians who indicated nutritional care and those indicating a generalist program (i.e., equal emphasis on nutrition and foodservice management) as the most appropriate preparation for their present jobs. For the importance, time consideration, and priority ratings, the responses were categorized as follows: (a) statements rated similarly by both the nutrition and general technicians; (b) statements rated significantly higher ($P \leq .05$) by nutrition technicians than by general technicians; and (c) statements rated significantly higher ($P \leq .05$) by generalist technicians than by nutrition technicians. Those competencies rated similarly by both technician groups could be considered to be core competencies needed on the job by both nutrition and general technicians. With few exceptions, the same competencies also were rated similarly by the two groups on time consideration and priority. Only a few competencies (five on importance ratings and six on time and priority scales) were rated significantly higher by nutrition technicians than by general technicians, and thirty-nine of the seventy-four competencies were rated as having greater importance, more frequent time considerations, and higher priority ($P \leq .05$) by generalist technicians.

For the supervisory ratings of technicians' performance and degree of supervision needed, responses were categorized according to priority ratings. Although some competencies received lower ratings than others, priority ratings indicated the technicians' performance was in the

satisfactory to above average range with general to little or no supervision needed. Twenty-one competencies were rated by 40 per cent or more of the technicians' supervisors as beyond the responsibility of the technician.

A recommendation of this study is that curricula for dietetic technician programs reflect educational preparation for the types of activities being performed by technicians on the job. A majority of the technicians in this study indicated that a program providing an equal emphasis on nutrition care and foodservice management (i.e., a generalist program) would provide the best background for present job responsibilities.

A conclusion of this study is that dietetic technicians are performing as assistants to dietitians in the manner recommended by ADA. Results of this study should be useful in revision of dietetic technician curricula.