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Jeannie Sneed, Major Professor

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DEVELOPMENT OF FINANCIAL MANAGEMENT COMPETENCIES FOR ENTRY- AND ADVANCED-LEVEL DIETETIC PRACTICE: A SURVEY OF HOSPITAL FOODSERVICE DIRECTORS/CHIEF DIETITIANS

A Thesis

Presented for the

Master of Science

Degree

The University of Tennessee, Knoxville

Elisabeth M. Cochrane

May 1991

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ABSTRACT

The purpose of this study was to develop a list of financial management competencies for entry- and advanced-level dietitians and to determine hospital foodservice directors/chief dietitians' perceived importance of these competencies at both levels of practice. A two-part survey was developed that included importance scales for 50 financial management competencies for both entry- and advanced-level dietitians and demographic items related to respondent and hospital characteristics. Questionnaires were mailed to a random sample of 1500 hospital foodservice directors/chief dietitians; data analysis was done on 485 responses (33.7% response rate).

The reliability for the importance scales for both entry- and advanced-level dietitians using Cronbach's alpha coefficient was 0.98 and 0.97, respectively. Mean perceived importance ratings of financial management competencies showed respondents perceived the competencies to be more important ($p \leq 0.0001$) for advanced-level dietitians than for entry-level dietitians. Over 50% of respondents thought eight competencies were "important" or "very important" for entry-level dietitians and 90% thought 26 of the competencies were "important" or "very important" for advanced-level dietitians. Competencies with the lowest

importance ratings were similar for dietitians at both levels.

Iterative principal axis factor analysis was used to group financial management competencies into related, describable factors. Factors identified for entry-level dietitians included financial knowledge (A); cost control (B); and budgeting and financial analysis (C). Factors identified for advanced-level dietitians included financial knowledge (A); budgeting (B); cost control (C); and financial analysis (D). Multiple regression analyses, which tested the relationship of identified factors for both entry- and advanced-level dietitians to the number of years employed as a Registered Dietitian (RD) and to the number of years employed in foodservice management, were not significant for either level of dietetic practice.

RDs indicated strong support for specialization certification in foodservice management. Almost 90% of those with an advanced educational degree and 86% of those without such a degree supported specialization. Regardless of the number of years employed as an RD or the number of years employed in foodservice management, respondents indicated strong support for specialization in this area.

The results of this study may be used for undergraduate, graduate, and continuing education program development and evaluation and to develop specialty certification in foodservice systems management.

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CHAPTER I

INTRODUCTION

Today's changing economic environment is forcing administrative dietitians to redefine their traditional role in the healthcare setting. Diagnosis related groups (DRGs) have demanded that dietitians justify their services, control costs, and generate profits (Haschke, 1983). The administrative dietitian needs strong financial management skills to cope with the demands of this environment.

Dietetic education may not be keeping pace with this demand especially in regard to financial management skills. One study, for example, found that dietetic educators placed less emphasis on financial competencies than did healthcare administrators (Yates, Shanklin, & Gorman, 1987). Graduates of Kansas State University's Master of Science degree program in institutional management indicated that advanced budgeting and financial planning were omitted from their program. Graduates suggested that additional graduate courses include budgeting, financial planning and analysis, and cost control (Ecklund, Spears, Gregoire, & Hoyt, 1989). Sanford, McKinley, and Scruggs (1973) discovered that internship graduates found their preparation less than adequate in areas requiring conceptual skills, such as financial management. In a study conducted by Fruin and

Lawler (1986), dietetic interns rated their ability to manage resources lower than all other management abilities. These studies indicate that dietetic curriculum content may not be meeting job skill needs.

Specialty certification in dietetics may provide practitioners the opportunity to address differences in dietetic curriculum content and knowledge needed for successful practice in their chosen area. Such a credential may help dietitians be seen more as "experts" by their employers. The American Dietetic Association (ADA) Council on Practice (COP) ad hoc Specialization Committee surveyed 4,700 employers of dietitians and found that 91% thought it was important or somewhat important that a dietitian specialist have a credential (Wellman & Bogle, 1990). In order to recognize specialties within the profession of dietetics, however, it will be necessary to develop competency statements which delineate advanced-level knowledge and skills.

There is limited research describing competencies for advanced levels of practice in foodservice systems management. In 1975, ADA published a position paper on competencies for the administrative dietitian ("Position Paper"). Competencies for entry-level practitioners in foodservice systems management also have been identified in the ADA role delineation study (Baird & Sylvester, 1983). The 1989 Role Delineation Study (Kane, Estes, Colton, &

Eltoft, 1990) defined competencies for entry-level Dietetic Technicians (DTs), as well as entry-level and beyond entry-level dietitians. Role delineation studies provide a comprehensive description of patterns within the dietetic profession and are useful when practice standards, quality assurance measures, and educational programs are developed (Kane et al., 1990).

Other research related to advanced-level dietetic practice includes a study by Snyder, Schiller, and Smith (1985), who compared career-entry administrative competencies with skills required in practice. They discovered that additional skills were needed for effective practice in almost every aspect of general administration. Respondents in this study perceived their current level of competence as below that required for their present level of practice. Dowling, Lafferty, and McCurley (1990) surveyed hospital administrators, food and nutrition department directors, and management dietetic educators to determine their perceptions of what credentials and skills are required for a director of a food and nutrition department in a hospital with 300 beds or more. Department directors and educators ranked financial management as the third most important skill and hospital administrators ranked it as the fifth most important skill.

Role delineation studies and other research (Sanford et al., 1973; Loyd & Vaden, 1977; Yates, et al., 1987; Snyder,

et al., 1985) have identified responsibilities of the dietitian practicing in foodservice systems management. These responsibilities are usually general statements that encompass all aspects of administrative dietetic practice. Responsibilities outlined in the Registration Examination for Dietitians (1989), for instance, include management of subsystems, planning and organization, control, procurement, production, and distribution and service. Specific competencies related to these areas would be more useful than general statements for educational program implementation. In addition, identification of financial management competencies and the differentiation of these competencies for entry- and advanced-levels of dietetic practice can be used to indicate topics for undergraduate and graduate curricula/courses, to develop continuing education programs, and to develop specialty certification in foodservice systems management.

Purpose

The purpose of this study was to identify competencies related to financial management for entry- and advanced-level dietitians practicing in the area of foodservice systems management. Specifically, this study:

1. Developed a comprehensive list of financial management competencies for entry- and advanced-level dietitians.

2. Determined the importance of financial management competencies for entry- and advanced-level dietetic practice as perceived by hospital foodservice directors/chief dietitians.
3. Identified underlying financial management factors for entry- and advanced-level dietitians.
4. Determined whether foodservice directors/chief dietitians who are Registered Dietitians (RDs) support specialty certification in foodservice management.

Research Hypotheses

The following hypotheses were tested to determine foodservice director/chief dietitian's perceptions of the importance of financial management competencies at entry- and advanced-levels of administrative dietetic practice.

H1: The perceived importance ratings for financial management competencies by foodservice directors/chief dietitians are not different for entry- and advanced-level dietitians.

H2: For factors identified at entry-level, there is no difference in importance ratings based on number of years employed as an RD or the number of years employed in foodservice management.

H3: For factors identified at advanced-level, there is no difference in importance ratings based on number of years

employed as a RD or the number of years employed in foodservice management.

Definition of Terms

The following definitions will clarify understanding of the research study:

Registered Dietitian--a person who has completed education and experience requirements and passed an examination of basic knowledge related to dietetic practice and who maintains competence through participation in approved continuing education (Baird & Sylvester, 1983).

Specialization in dietetics--"an advanced level of practice which responds to a defined area of need and requires demonstrated competence exceeding that for entry level" (Owen, Dougherty, & Bogle, 1986, p. 1073).

Entry-level position--"in each level of practice, position requiring the minimum level of training/experience; operationally defined as position which can be filled by a person with three years or less experience" (Baird & Sylvester, 1983, p. 131).

Competence--"the quality of being functionally adequate in performing tasks and assuming the role of a specified position-with the requisite knowledge, ability, capability, skill, judgement, attitudes, and values" ("Accreditation/ Approval Manual," 1987, p. 117).

Role delineation--"a process for determining the minimum-basic level of major and specific responsibilities that must be performed by personnel in a given generic position" (Baird & Sylvester, 1983, p. 134).

Administrative dietitian--a member of the management team who affects the nutritional care of groups through the management of foodservice systems that provide optimal nutrition and quality food (Arkwright, Collins, Sharp, & Yakel, 1974).

Foodservice system--"an organized, integrated, or coordinated whole composed of diverse, but interrelated and interdependent parts, (e.g., menu planning, procurement, production, distribution, and service) for accomplishment of objectives" (Baird & Sylvester, 1983, p. 132).

Foodservice systems management--"a process concerned with the accomplishment of foodservice system objectives by integrating resources within the total system and by working with and through individuals and groups" (Baird & Sylvester, 1983, p. 132).

Dietetic Internship--a formalized post-baccalaureate educational program in dietetics that provides didactic and supervised clinical experiences to meet the qualifications for practice in the profession of dietetics ("Accreditation/ Approval Manual," 1987).

Coordinated Program--a formalized academic program in dietetics that is designed to coordinate didactic and

clinical experiences to meet the qualifications for practice in the profession of dietetics ("Accreditation/ Approval Manual," 1987).

CHAPTER II

REVIEW OF LITERATURE

Introduction

The 1984 Study Commission on Dietetics ("A New Look") stated that "dietitians are experts in the science of foods and nutrition" (p. 1052). An "expert" is defined by Webster (1986) as one who has a special skill or knowledge in a subject. The increasingly complex scope of dietetic practice may make it difficult for dietitians to be experts in all areas of practice and may indicate the need for specialization within the profession. Weaknesses in some skills necessary for successful practice may also indicate the need for specialization. Several researchers (Ecklund et al., 1989; Rinke, David, & Bjoraker, 1982; Sanford et al., 1973; Snyder et al., 1985; Yates et al., 1987), for instance, found that dietitians were deficient in management skills. Perhaps dietitians are not experts in some areas since all areas of dietetic practice are not viewed to be of equal importance. Fruin (1983), for instance, found that undergraduate dietetic students and dietetic practitioners perceived management-related tasks as less important than clinical nutrition-related tasks. Perhaps Blaker's thoughts

in 1973 hold true today: "The dietitian cannot be all things to all people" (p. 427).

The changing healthcare delivery system demands that dietitians be experts not only in nutrition care but in managing limited resources. The outlook for the year 2000 is that hospital occupancy rates will continue to fall and competition among healthcare providers will continue to increase ("The Year 2000," 1986). Financial management skills will be particularly important to dietitians in this competitive environment. As the climate in which dietitians' practice changes, so too must dietetic education and the profession. Thus, this review of literature will focus on changes in undergraduate dietetic education, entry-level dietetic practice, graduate education, and specialization within the field of dietetics.

Undergraduate Dietetic Education

In 1972 ADA endorsed competency-based education (CBE) by stipulating that by 1980 all undergraduate dietetic programs meet Plan IV of the Association's "Minimum Academic Requirements for ADA Membership" ("Directory," 1976). Plan IV requirements were expressed in terms of basic competence and knowledge instead of specific credit hours and courses as was the case with Plan III. Standards of Education were developed in 1988 creating Plan V, with the stipulation that

all undergraduate programs meet these academic requirements by 1993 ("Directory," 1989).

Competency-based education, such as Plan IV and Plan V, emphasizes the attainment of a "minimum standard" which adds criterion levels, value orientations, and quality to the definition (Rinke, 1980). Competence implies that one has "...the quality of being functionally adequate in performing the tasks and assuming the role of a specified position-with the requisite knowledge, ability, capability, skill, judgment, attitudes, and values" ("Accreditation/Approval Manual," 1987, p. 117).

Theoretically, a generalist dietetic education attempts to prepare the graduate for entry-level positions in clinical dietetics, community nutrition, and foodservice systems management. ADA endorsed the generalist focus in dietetic education based on the 1983 Task Force on Education recommendation that all entry-level dietitians "be prepared with a common body of knowledge, skills, and values in order to provide the foundation for quality practice at entry and advanced levels" ("A New Look," 1984, p. 1055). This recommendation de-emphasized specialization in entry-level preparation because specialization at this level "could result in an excessively narrow scope of practice and influence for dietitians" (Haschke & Maize, 1984, p. 209). To facilitate a change to a more generalist education, the Long-Range Planning Conference recommended that a "broader

base in management, education, community care, and interdisciplinary health sciences" be emphasized (cited in Haschke & Maize, 1984, p. 209).

Entry-Level Dietetic Practice

A generalist dietetic education assumes that the dietitian is adequately prepared to practice at entry-level in all areas of dietetics. Traditionally, dietitians entered the profession as clinical dietitians and then moved into administrative positions through job promotions (Snyder et al., 1985). Loyd and Vaden (1977) found this to be the case for 267 clinical and 258 administrative hospital dietitians who were surveyed to obtain information on practitioners' expectations of the performance of entry-level generalist dietitians.

Likewise, Linnenkohl and Roach (1983) evaluated the generalist Coordinated Undergraduate Program (CUP) at Kansas State University (KSU) by surveying graduates who had been in practice four to eight years. Nearly 45% of the graduates were employed as clinical or community dietitians in their first job, but only 26.1% listed clinical or community positions as their current position. The number employed as generalist dietitians for their first position was 25.6% but only 17% were still working in such a position at the time of the study. Conversely, the number of

dietitians employed as administrators in their first positions was 18% and 26.3% indicated they were currently working as administrators. When Scheule, Roach, and Hoyt (1987) evaluated KSU CUP graduates who had graduated between 1971 and 1974, they found that 66% of the graduates chose clinical positions for their first position, but 10 to 13 years later more were employed in management than in any other area. Thus, a foundation in management principles, upon which work experience can build, is essential in dietetic education.

When the generalist dietitian acquires or is promoted into an administrative position, it seems reasonable that a generalist education would provide the managerial knowledge and skills to successfully practice in this area. Snyder et al. (1985) analyzed responses from a study of 50 administrative dietitians (35% response rate) in Nebraska and asked them to compare career-entry administrative competence with competence needed in current practice. Respondents rated their perceived competence at career-entry and in current practice for 59 generic administrative competencies divided into seven categories: organization and administration; leadership and supervision; personnel management; space, equipment, and materials management; communications; financial management; and quality assurance of services. Dietitians at career-entry perceived themselves as being competent in only three of the 59

competencies and perceived their current level of competence as below that needed for current practice. The authors concluded that "a large number of entry-level dietitians are at least partially unprepared for their first positions and may also lack a solid foundation on which to build skills necessary for advanced practice in administration" (p. 937). The conclusions of Snyder et al. (1985) are similar to those of Sanford et al. (1973) and Rinke et al. (1982), who stated that entry-level dietitians had a mastery of technical skills but were less prepared in areas that required conceptual skills.

Katz (1974) defined technical skills as "an understanding of, and proficiency in, a specific kind of activity, particularly one involving methods, processes, procedures, or techniques" (p. 91). Conceptual skills are defined as the "ability to see the enterprise as a whole; it includes recognizing how the various functions of the organization depend on one another, and how changes in any one part affect all the others..." (p. 93). Katz's model of the effective administrator also includes human skills, defined as the "ability to work effectively as a group member and to build cooperative effort within the team" (p. 91).

Sanford et al. (1973) surveyed individuals who completed dietetic internships between 1965 and 1967, and asked about administrative aspects of their first positions.

Respondents rated the adequacy of their internships in preparing them for 59 administrative functions. Twenty-five percent or more of the 461 graduates (75.8% response rate), indicated that they had received less than adequate preparation in 37 of the 59 functions and 50% indicated their preparation was less than adequate in 11 functions. Respondents indicated that their preparation was inadequate in areas requiring human and conceptual skills such as departmental organization and management, financial management, and personnel management.

Rinke et al. (1982) analyzed responses from a survey of 350 hospital foodservice directors (73.7% response rate) who rated the entry-level generalist dietitian's adequacy of preparation for 69 administrative competencies. Entry-level administrative competencies were defined as those administrative and/or management competencies exhibited from the "beginning of the third to the end of the fifth months on the first job" (p. 134). Employers perceived entry-level dietitians as better prepared in technical skills and less adequately prepared in human and conceptual skills, such as budgeting and personnel management.

The results of studies conducted by Sanford et al. (1973) and Rinke et al. (1982) may not be applicable to current dietetic practice since the respondents in these studies were educated under Plan III. Other researchers, however, who studied dietitians educated under Plan IV, also

found a lack of preparation in conceptual skill areas. For instance, Fruin and Lawler (1986) in a survey of 487 dietetic interns (61% response rate) asked about their perceived competence in foodservice systems management concepts at the start and the near completion of their internship. Sixty-three dietetic internship directors (76% response rate) and 68 Plan IV directors (45% response rate) were also surveyed about the expected competence of students at the completion of their academic work. All three groups gave their lowest ratings to managing resources (human, facility, equipment, information, and financial); managing Quality Assurance programs; and advocating action to advance foodservice systems and nutritional status.

Yates et al. (1987) found similar results in their study that asked healthcare administrators and dietetic educators (CUP and internship directors, and Plan IV representatives) to rate the degree of importance for foodservice directors/managers for 57 competencies. The 57 competencies included seven to eleven statements related to financial, technical, personnel management, nutrition services, production, and marketing competencies. The financial management area consisted of ten competencies. Responses from 176 healthcare administrators (54.8% response rate) and 67 dietetic educators (50.6% response rate) were analyzed. Healthcare administrators placed more importance on financial management skills for foodservice

directors/managers than did educators. Conversely, educators placed more emphasis on administrative skills in nutrition services and technical and production competencies.

Graduate Education

Fiedler, Raguso, Morgan, and Renker (1990) speculated that in the future a master's degree could become a requirement for entry-level dietetic practice due to increasing complexity of dietetics and because other allied healthcare professionals are requiring higher levels of education. In addition, specialty certification may necessitate that dietitians obtain advanced degrees. The 1986 ADA census showed that 40% of active members have advanced degrees and more than 10% were working toward such a degree (Bryk, 1987). No outside agencies have jurisdiction over graduate education so the responsibility for assuring and meeting academic standards falls upon professional leaders and educators (Ecklund et al., 1989).

Few studies have examined or defined foodservice systems management competencies in graduate education. Ecklund et al. (1989) surveyed graduates of KSU's Master of Science program in institutional management who graduated between 1974 and 1984. Eighty graduates (73.4% responses rate) evaluated 39 management concepts for relevance to

their present professional responsibilities. Graduates also evaluated the adequacy of their graduate education and indicated whether competence was gained from sources other than the graduate program (e.g. undergraduate program, internship, continuing education, or job experience). All concepts were rated as relevant to current professional responsibilities and 86% felt their graduate education was excellent. Graduates indicated that competence in nine concepts, including food production, sanitation and health regulations, menu planning, and inventory control were gained from other sources. Concepts listed by graduates as being omitted from their programs related to items associated with experiences in practice. These items included advanced budgeting and financial planning, equipment repair and maintenance, dealing with corporations, techniques in catering, knowledge of government-related food programs, self studies prior to inspections, and coping with changing healthcare regulations. Graduates suggested that computer applications, budgeting, marketing, quality assurance, financial planning and analysis, cost control, labor relations, and merchandising dietetics be added to the graduate curriculum.

Another study conducted by Seal, Spears, Vaden, and Hoyt (1983) involved 450 CUP and internship directors and Plan IV representatives (263 responses analyzed) and 450 administrative dietitians who had completed an advanced

degree or were currently enrolled in a graduate program (137 responses analyzed). Both groups were asked to indicate whether each of 65 competencies were expected of an administrative dietitian with a bachelor's degree, with a master's degree, or whether competence depended on professional work experience and was not related to level of education. Nine competencies were indicated as being expected of a dietitian with a master's degree, including demonstrate specialized knowledge, utilize industrial engineering techniques, utilize mathematical forecasting, use financial analysis techniques, develop computerized systems, conduct/direct research, apply research methodology, evaluate new developments, and evaluate job descriptions. Only one competency, redesign systems, was thought to be required of a dietitian who had worked four or more years.

Specialization in the Field of Dietetics

Specialty certification in dietetics may address the differences in dietetic curriculum content and the knowledge needed for successful practice in various areas of dietetics. A "specialty" has been defined by ADA as "an advanced level of practice that responds to a defined area of need and requires demonstrated competence exceeding that for entry level" (Wellman & Bogle, 1990, p. 1117). Three

areas of dietetic practice identified for advanced-level recognition are clinical nutrition, community nutrition, and foodservice systems management (Owen et al., 1986).

Specialty certification has been a topic of much debate among ADA members (Sandrick, 1989). Presently, ADA has no formal system to recognize individuals who practice in a specialty area. In 1979, the House of Delegates rejected a proposal to develop a specialty certification system (Owen, et al., 1986). However, the 1981 Long-Range Planning Conference, the 1983 Task Force on Education, and the 1984 Study Commission on Dietetics recommended continued development in the area of specialization certification (Owen et al., 1986). Since this time, the COP ad hoc Specialization Committee has continued to work towards the development of specialty certification. This committee, supported by the Division of Practice and the Department of Research, has examined the tasks performed by dietitians in nine categories of activities in the entry-level role delineation study to use as a baseline for understanding advanced-level competencies (Wellman & Bogle, 1990). The Commission of Dietetic Registration, Council on Education, Council on Practice, and the Council on Research, are planning studies of advanced practice to serve as a basis for the development of advanced-level credentials (Wellman & Bogle, 1990).

ADA also plans to use the job responsibilities of entry- and advanced-level dietitians that are defined in the

1989 Role Delineation Study to "serve as the basis for future role delineation studies of advanced-level practice and dietetic specialties" ("Commentary," 1990, p. 1123). The 1989 Role Delineation Study was an empirical investigation that determined job responsibilities and developed a list of knowledge requirements for competence in each area of job responsibility for DTs, entry-level dietitians, and beyond entry-level dietitians ("Commentary," 1990). In addition to using the information in this study for future role delineation studies, it will be used to evaluate the validity of the registration examination for RDs and DTs (Kane, et al., 1990) and to revise knowledge and performance requirements in the Standards of Education ("Commentary," 1990).

The need for and timing of specialization in a dietitian's career have been widely discussed by ADA members (Sandrick, 1989). In 1984, the Task Force on Education found that 83.5% of all dietitians and 80.5% of dietitians practicing in management, agreed that dietetic specialties at advanced level practice should be recognized ("Summary of Survey"). In 1986, the COP ad hoc Specialization committee, reported that 1,211 ADA members expressed interest in specialty credentials (Wellman & Bogle, 1990). Sandrick (1989) surveyed 750 directors of departments of dietetics (541 responses analyzed) and found that 82.1% of respondents thought there was a need for specialization within the

profession. Almost eighty-one percent of respondents felt that undergraduate dietetic education should provide generalist preparation, 69.5% felt that specialization should occur only at the graduate level, and 77.2% felt that specialization should occur only after the practitioner has professional work experience.

Conclusion

If dietitians are to be perceived as experts by other professionals and employers, their skill level and credentials need to reflect the complex environment in which they practice. Dietetic education must be updated continuously to enable dietitians to be successful in this environment. Dietitians must become better qualified, perhaps through specialization, to work within the constraints of the healthcare delivery system. If this does not occur, they may find increasing job competition from individuals who are perceived to be more qualified.

CHAPTER III

METHODS

Research Instrument

Stage I

Development of Financial Management Competencies

A comprehensive list of 44 financial management competencies (Appendix A) was developed by this author and Anderson (1990) based on the Role Delineation and Verification for Entry-Level Positions in Foodservice Systems Management (Baird & Sylvester, 1983), other ADA publications ("Accreditation/Approval Manual," 1987; "Position Paper," 1975; "Registration Examination," 1989), and research on competencies and roles in dietetics (D'Costa & Schreck, 1983; Ecklund et al., 1989; "Evaluation Strategies," 1978; Holmes, 1982; Katz, 1974; Linnenkohl & Roach, 1983; Lipscomb & Donaldson, 1964; Loyd & Vaden, 1977; Mariampolski, Spears, & Vaden, 1980; Palacio, Spears, Vaden, & Downey, 1985; Rinke et al., 1982; Roach, Hoyt, & Reed, 1978; Sanford et al., 1973; Seal et al., 1983; Snyder et al., 1985; "Structuring Education," 1979; "The Year 2000," 1986; Yates et al., 1987).

The list of competencies was reviewed by a panel of eight experts in the area of foodservice financial management. Seven of the panel members were RDs, seven had advanced degrees, seven were hospital foodservice directors, and one was a foodservice management educator. The seven experts who were foodservice directors were chosen from the 1989-1990 American Society of Hospital Foodservice Administrators (ASHFA) membership roster. Panel members were contacted by telephone and asked to participate. A phone script was used to ensure they were all given the same information (Appendix B). The list of 44 competencies, cover letter (Appendix C), and a self-addressed, postage-paid return envelope were mailed to each participant. Panel members were asked to review the competencies and decide if administrative dietitians perform them. They were asked to delete, modify, or make additions to the competencies, as they deemed appropriate. All eight panel members completed the review process and returned the questionnaire.

Stage II

Instrument Development

The 44 financial management competencies were modified or expanded based on the expert panel's suggestions. Competencies that were deleted included "develop guidelines

for salary scales and merit raises" and "analyze investments." Added competencies included:

1. Know reimbursement policies (such as DRGs, medicare, medicaid, private insurance).
2. Know depreciation methods and their application.
3. Use mission statement, goals, objectives, and plans in developing budgets.
4. Develop financial ratios related to profits, investments, and assets.
5. Determine cost effectiveness of make vs. buy decisions.
6. Calculate contribution margin.
7. Determine appropriate use of part-time and full-time labor.
8. Calculate turnover and absenteeism costs.

Thirteen of the 44 competencies were modified for clarity:

1. "Apply accounting and bookkeeping principles" was changed to "know basic accounting and financial management principles."
2. "Prepare financial reports" was changed to "know how to prepare financial reports."
3. "Use computer to generate financial information and reports" was expanded to "use computer to generate financial information, budgets, and reports."
4. "Project units of service and revenue as basis for budgeting" was changed to "project units of service, cost, and revenue as basis for budgeting."
5. "Prepare budgets" was expanded to "prepare budgets (operating budget, cash budget, and pro forma balance sheet)."
6. "Prepare proposals to justify requests for external or internal funding (i.e. capital budgets, research proposals)" was changed to "justify requests (using methods such as return on investment, time value of money, payback period, profitability index) for external or internal funding (i.e. capital budgets, research proposals)."
7. "Determine food, labor, and operating cost" was broadened to "determine food, labor, and operating costs per unit of service."
8. "Analyze financial impact" was expanded to "analyze financial impact of operational decisions."
9. "Complete variance analysis" was changed to "monitor variance reports (budget to actual) and design a plan for corrective action."

10. "Conduct break-even analysis" was changed to "calculate and use break-even analysis information."
11. "Determine labor hour requirements in relation to volume and budget" was expanded to "determine labor hour requirements in relation to volume and budget per unit of service."
12. "Estimate personnel costs for a facility" was broadened to "estimate personnel costs for a facility for budget and planning purposes."
13. "Complete insurance, tax, and other personnel-related forms" was changed to "know insurance, tax, and other personnel-related requirements."

A three-part descriptive survey was developed that included the eight added and the 13 modified competencies for a total of 50 competencies (Appendix D). In part one of the survey instrument, respondents were asked to indicate the importance of the financial management competencies to the dietitian's job at entry-level and at advanced-level on a four-point scale, with zero being "not important" to the job, one "some importance," two "important," and three "very important." In part two of the survey, respondents were asked to review the same list of financial management competencies and indicate the adequacy of dietitian's preparation at entry-level on a five-point scale, with zero being "totally inadequate," one "inadequate," two "somewhat inadequate," three "adequate," and five "very adequate."

Demographic items included in part three of the survey questionnaire pertained to gender, educational background, registration status, route to registration, number of years employed as a dietitian, and number of years employed in foodservice management. Other questions on the survey

instrument were related to hospital size and ownership characteristics, and whether or not the facility or a contract company managed the foodservice department. Respondents who were RDs were asked if they thought the dietetic profession should establish specialty certification in foodservice management, and if no, why not.

Stage III

Pilot Test

A sample of twenty foodservice directors was selected from the 1989-1990 ASHFA membership roster using a random number table. The questionnaire, cover letter, questionnaire critique form (Appendix D), and a self-addressed, postage-paid return envelope were mailed to each director selected. Three questionnaires and cover letters were returned resulting in a 15% response rate. Five faculty members also were asked to review the cover letter and questionnaire and provide feedback.

Stage IV

Modification of Research Instrument

The survey instrument was modified based on responses to the three returned surveys from the pilot test stage and on feedback provided by five faculty members who reviewed the survey instrument. The directions in part one of the survey instrument, which asked the respondent to rate the importance of 50 financial management competencies for entry- and advanced-level dietitians, were clarified. The directions were broadened to include not only a definition for an entry-level position but also one for an advanced-level position. An advanced-level position was defined as "a position that requires work/experience, continuing education, and/or advanced coursework beyond that for entry-level." The scales in part one were changed from a four-point to a five-point scale to be more descriptive. The five-point scale used the following anchors: zero "not important" to the job, one "of little importance," two "some importance," three "important," and four "very important."

Part two of the survey, which asked respondents to indicate the adequacy of dietitians' preparation at entry-level, was deleted in order to decrease the length and the time required by respondents to complete the survey. Part three of the survey remained essentially the same except

that some items were changed to open-ended questions. For example, respondents were asked to list all the educational degrees obtained beyond high school and to list their route to dietetic registration. Two questions asked respondents to indicate how long they had worked as an RD and how long they had been employed in foodservice management.

Sample

A computer-generated simple random sample of 1500 foodservice directors/chief dietitians from the member hospitals in the American Hospital Association (AHA) was obtained from Medical Marketing Services. This company provided address labels for the randomly generated sample. Approval from the University of Tennessee Human Subjects Review Committee was obtained before the study began (Appendix E).

Data Collection

The modified survey instrument and cover letter (Appendix F), along with a self-addressed, postage-paid return envelope were mailed to the 1500 subjects in the study sample. A four-digit code was assigned to each survey to identify non-respondents for follow-up purposes. A follow-up post card (Appendix G) was sent to non-respondents

three weeks later to encourage participation.

Data Analysis

Frequencies, means, and standards deviations were calculated for each of the 50 financial management competencies at both entry-level and advanced-level as rated for importance to the job by foodservice directors/chief dietitians. For each demographic item, frequency of responses was determined for descriptive purposes. A Students' t-test was used to test H1: The perceived importance ratings of financial management competencies by foodservice directors/chief dietitians are not different for entry- and advanced-level dietitians. The SAS System (SAS, 1987) was used for all data analyses.

The internal consistency of the 50 financial management competencies was determined using Cronbach's alpha coefficient (Cronbach, 1951). The scale reliability coefficient and the item-total reliability statistics were determined for competencies at both entry- and advanced-levels.

Iterative principal axis factor analysis was used to determine if the 50 financial management competencies could be grouped into related, describable factors. The number of factors retained was based on an analysis of the point of discontinuity on a scree plot and a minimum eigenvalue of

one. Varimax rotation then was used for the determined number of factors. Factor scores were calculated for hypotheses testing.

Multiple regression analysis was used to determine if the number of years employed as an RD or the number of years employed in foodservice management influenced the importance ratings for the factors identified for both entry-level and advanced-level dietetic practice (Hypotheses 2 and 3). A probability level of 0.05 was used for all tests of significance.

CHAPTER IV

RESULTS

Sample

Questionnaires were returned from 505 foodservice directors/chief dietitians for a response rate of 33.7%. Responses were analyzed for 485 useable questionnaires because several were filled out improperly or returned too late to be included in the analysis. Characteristics of the study participants are summarized in Table 1. Slightly over one-third of the respondents (34.8%) had an advanced educational degree. One limitation to this study may be that most respondents (83%) were RDs. The results of this study, therefore, may not be applicable to all hospital foodservice directors, but only to RDs.

Respondents' hospital characteristics are summarized in Table 2. The study sample is similar to member hospitals in the AHA in regards to bed size. The percentage of hospitals in the AHA with 199 or fewer beds is 55%, 200-399 beds is 29%, and 400 beds or larger is 16% (Akins, 1991). Similarly, in the study sample, the percentage of hospitals within each bed size category is 57%, 27%, and 16%, respectively.

Table 1. Characteristics of Foodservice Directors/Chief Dietitians

Characteristic	no.[a]	%
sex		
male	34	7.0
female	449	93.0
education		
No college	36	7.5
A.S. Hotel Restaurant Administration or Business	2	0.4
B.S. Dietetics, Nutrition, Food Science, or Home Economics	229	47.7
B.S. Hotel Restaurant Administration, Food Systems Administration, or Institutional Management	12	2.5
B.S. Social Science or Business	8	1.6
B.S. Dietetics/Nutrition + Graduate Courses	21	4.4
B.S. Social Science/M.S. Dietetics	20	4.2
B.S. Dietetics or Nutrition/M.S. Food Systems Administration, Hotel Restaurant or Institutional Management	26	5.5
B.S. Dietetics/Nutrition, Home Economics, or Food Science/M.S. Nutrition	80	16.7
B.S. Dietetics/Nutrition or Home Economics /M.S. Human Resource Management	13	2.7
B.S. Hotel Restaurant Administration or Institutional Management/M.S. Food Systems Administration or Institutional Administration	5	1.0
B.S. Dietetics/MBA	20	4.1
B.S. Dietetics/M.S. Nutrition/Ph.D. Institutional Management	2	0.4
Other	1	0.2
registration status		
registered	402	83.2
not registered	81	16.7
route to registration		
Dietetic Internship	186	39.2
CUP/CP	84	17.7
Approved Pre-Professional Practice Program	1	0.2
Advanced Degree + 6 Month Experience	57	12.0
3-Year Work Experience	31	6.5
Traineeship	26	5.5
Grandfathered	15	3.2

Table 1 (Continued)

Characteristic	no.*	%
years worked as Registered Dietitian		
5 or less	161	34
6 to 10	91	19
11 to 15	93	20
16 to 20	62	13
21 to 25	37	8
more than 26	31	6
years worked in food service management		
5 or less	107	32
6 to 10	82	25
11 to 15	53	16
16 to 20	37	11
21 to 25	31	9
more than 26	25	8

*n=485

Table 2. Characteristics of Hospitals Employing Foodservice Directors/Chief Dietitians

Characteristic	no.[a]	%
hospital description[b]		
not for profit	331	68.5
for profit	81	16.8
teaching	92	19.0
non-teaching	73	15.1
corporate owned	81	16.8
multi-system	41	8.5
government owned (Federal)	33	6.8
government owned (state, county, or city)	82	17.0
church affiliated	54	11.2
university/medical school	13	2.7
other	30	6.2
number of beds		
199 or fewer	276	57.3
200-399 beds	129	26.8
400 beds or larger	77	16.0
management of food service department		
facility/self-operated	386	80.2
contract company	95	19.8

[a]n=485
[b]respondents could choose more than one characteristic, thus, the total is more than 100%.

Reliability of Research Instrument

The Cronbach's alpha coefficient for entry- and advanced-level competencies was 0.98 and 0.97, respectively. Item-total correlation analysis (Appendix H) showed that the alpha coefficient would not significantly increase for either scale if any item were omitted. These high Cronbach's alpha coefficients are indicative of high internal consistency of responses for this group.

Importance of Financial Management Competencies

The mean ratings of respondents' perceived importance of financial management competencies for entry- and advanced-level dietitians are summarized in Table 3. Generally, the standard deviations for mean scores were smaller for the importance of competencies for advanced-level dietitians than for entry-level dietitians, indicating more agreement among respondents. Competencies that did not have a high mean rating (less than 2.0) for entry-level dietitians are included in Appendix I.

Hypothesis 1 stated that the perceived importance ratings of financial management competencies by foodservice directors/chief dietitians are not different for entry- and advanced-level dietitians. Importance ratings for all competencies were higher for advanced-level dietitians than

Table 3. Mean Ratings[a] of Foodservice Directors'/Chief Dietitians'[b] Perceived Importance of Financial Management Competencies for Entry- and Advanced-Level Dietitians

	Competency	Level	
		Entry	Advanced[a]
1.	Know reimbursement policies (such as DRGs, medicare, medicaid, private insurance).	2.2±1.0[d]	3.4±0.8
2.	Define basic financial terms.	2.6±0.9	3.5±0.7
3.	Know purpose of financial reports.	2.6±0.9	3.7±0.6
4.	Know financial goals of the operation (profit, break even, subsidized).	2.7±1.0	3.7±0.5
5.	Know basic accounting and financial management principles.	2.5±1.0	3.5±0.7
6.	Know how to prepare financial reports.	2.0±1.0	3.4±0.8
7.	Use computer to generate financial information, budgets, reports.	2.0±1.0	3.2±0.9
8.	Know depreciation methods and their application.	1.5±1.0	2.7±1.1
9.	Use mission statement, goals, objectives, and plans in developing budgets.	2.2±1.1	3.5±0.7
10.	Know appropriate application of different budgeting systems.	1.8±1.0	3.1±0.9
11.	Collect appropriate information for budget planning.	2.3±1.0	3.6±0.7
12.	Project units of service, cost, and revenue as basis for budgeting.	2.2±1.0	3.6±0.7
13.	Justify budget requirements, including purchasing of new equipment and renovation.	2.2±1.1	3.7±0.6
14.	Prepare budgets (operating budget, cash budget, and pro forma balance sheet).	2.0±1.1	3.6±0.8
15.	Prepare capital budgets.	1.8±1.1	3.4±0.9
16.	Use budget to establish cost control system.	2.1±1.0	3.6±0.6
17.	Justify requests(using methods such as return on investment, time value of money, payback period, profitability index) for external or internal funding (i.e. Capital budgets, research proposals).	1.9±1.0	3.4±0.9
18.	Monitor variance reports (budget to actual) and design a plan for corrective action.	2.1±1.1	3.6±0.7
19.	Determine food, labor, and operating cost per unit of service.	2.4±1.0	3.7±0.6
20.	Develop and cost standardized recipes.	2.8±0.9	3.6±0.7
21.	Develop and modify menus in relation to cost.	3.0±0.9	3.6±0.6
22.	Price menu items in accordance with established pricing strategies.	2.6±1.0	3.5±0.7
23.	Maintain cost control through receiving, storage, inventory, and sanitation procedures.	2.8±1.0	3.6±0.7
24.	Utilize precost and precontrol systems for forecasting.	2.2±1.0	3.3±0.8
25.	Write purchase specifications and orders.	2.4±1.0	3.4±0.7
26.	Supervise cafeteria cash activities and reporting.	2.4±1.1	3.2±0.9

Table 3 (Continued)

	Competency	Level: Entry	Level: Advanced[c]
27.	Monitor procedures for billing, cash handling, and handling of non-cash income.	2.2±1.1[d]	3.3±0.9
28.	Analyze financial impact of operational decisions.	2.2±1.1	3.6±0.7
29.	Analyze cost/benefits programs and courses of action.	2.3±1.0	3.6±0.6
30.	Develop financial ratios related to profits, investments, and assets.	1.6±1.0	2.9±1.0
31.	Assess financial status based on approved budget.	2.1±1.0	3.5±0.8
32.	Assess financial status based on profit and loss statement.	2.0±1.0	3.4±0.9
33.	Analyze cash flow.	1.9±1.1	3.2±0.9
34.	Makes decisions based on the balance sheet and income statement.	1.9±1.0	3.3±0.9
35.	Identify sources of funds and solicit funds for new projects.	1.9±1.0	3.2±0.9
36.	Authorize expenditures.	1.9±1.1	3.2±0.9
37.	Establish financial objectives of department.	2.1±1.1	3.6±0.8
38.	Establish and implement fees for service.	2.4±1.0	3.6±0.6
39.	Develop plan for collection of fees and accounts.	2.0±1.1	3.2±0.6
40.	Calculate and use break-even analysis information.	1.9±1.0	3.2±0.9
41.	Determine cost effectiveness of make vs. buy decisions.	2.3±1.1	3.5±0.7
42.	Develop plans to generate revenue.	2.5±1.1	3.7±0.6
43.	Know process for internal/external audits.	2.0±1.1	3.2±0.9
44.	Calculate contribution margin.	1.6±1.0	2.9±1.1
45.	Determine labor hour requirements in relation to volume and budget per unit of service.	2.2±1.1	3.6±0.7
46.	Recommend wage and salary adjustments for employees.	2.1±1.1	3.6±0.7
47.	Determine appropriate use of part-time and over-time labor.	2.4±1.1	3.7±0.6
48.	Estimate personnel costs for a facility for budget and planning purposes.	2.1±1.1	3.5±0.8
49.	Know insurance, tax, and other personnel-related requirements.	2.1±1.1	3.0±1.0
50.	Calculate turnover and absenteeism costs.	1.9±1.1	3.3±0.9

[a]A five-point rating scale was used; 0 not important, 1 of little importance, 2 some importance, 3 important, and 4 very important.
[b]n=464 to 482
[c]Importance ratings for all competencies were higher for advanced-level dietitians ($p \leq 0.0001$).
[d]mean±standard deviation

for those at entry-level ($p \leq 0.0001$). Thus, hypothesis 1 was rejected.

Entry-Level Dietetic Practice

The percentage of respondents who rated each financial management competency "important" or "very important" for entry-level dietitians, ranged from 74.5% to 15.2% (Table J-1). Over 50% of the respondents thought eight competencies were "important" or "very important" for entry-level dietitians. These items, in descending order of importance, include:

21. Develop and modify menu items in relation to cost.
20. Develop and cost standardized recipes.
23. Maintain cost control through receiving, storage, inventory, and sanitation procedures.
4. Know financial goals of the operation (profit, break even, subsidized).
22. Price menu items in accordance with established pricing strategies.
2. Define basic financial terms.
3. Know purpose of financial reports.
42. Develop plans to generate revenue.

Less than 20% of the respondents thought "know depreciation methods and their application" (8); "develop financial ratios related to profits, investments, and assets" (30); and "calculate contribution margin" (44), were "important" or "very important" for entry-level dietitians.

The frequency distribution of respondents' perceived importance ratings for the 50 financial management competencies for entry-level dietitians is shown in Table

K-1. Data show that although a high percentage of respondents did not rate some of the competencies "important" or "very important," a large number rated them of "some importance." Competencies that 40 to 50% of the respondents rated "not important" or "of little importance" included "know depreciation methods and their application" (8); "develop financial ratios related to profits, investments, and assets" (30); "calculate contribution margin" (44); and "know insurance, tax, and other personnel-related requirements" (49).

Advanced-Level Dietetic Practice

The percentage of respondents who rated each financial management competency "important" or "very important" for advanced-level dietitians is shown in Table J-2. In every instance, the percent who listed each competency "important" or "very important" increased from entry- to advanced level. Percentages ranged from 57.6 to 96.7%. Twenty-six out of the 50 competencies were rated "important" or "very important" for advanced-level dietitians by 90% or more of the respondents. Sixteen of the 50 competencies were rated "important" or "very important" by 80% or more of the respondents. The remaining eight competencies were rated by 57.6 to 79.0% of respondents as "important" or "very important" for advanced-level dietitians. The competency

"know depreciation methods and their application" (8), was rated lowest, but still over half of the respondents felt this competency was "important" or "very important" for advanced-level dietitians.

Similar competencies had the lowest ratings for both entry- and advanced-level dietitians. These competencies included "know depreciation methods and their applications" (8); "know appropriate application of different budgeting systems" (10); "develop financial ratios related to profits, investments, and assets" (30); "analyze cash flow" (33); "calculate contribution margin" (44); and "know insurance, tax, and other personnel-related requirements" (49).

The frequency distribution of respondents' importance ratings for the financial management competencies for advanced-level dietitians is shown in Table K-2. Data show that none of the competencies had a high percentage of respondents rating them "not important" or "of little importance."

Financial Management Areas

Entry-Level Dietetic Practice

Factor analysis of the responses to the 50 financial management competencies for entry-level dietitians resulted in three factors. The rotated factor loading matrix for

entry-level dietitians is shown in Table 4. The three factors identified for entry-level dietitians are financial knowledge (factor A); cost control (factor B); and budgeting and financial analysis (factor C).

Hypothesis 2 stated that for the factors identified at entry-level, there is no difference in importance ratings based on the number of years employed as an RD or the number of years employed in foodservice management. Regression analysis for the model was not statistically significant. Thus, the hypothesis was not rejected.

Advanced-Level Dietetic Practice

Factor analysis of the responses to the 50 financial management competencies for advanced-level dietitians resulted in four factors. The rotated factor loading matrix for advanced-level dietitians is shown in Table 5. The four factors identified for advanced-level dietitians are financial knowledge (factor A); budgeting (factor B); cost control (factor C); and financial analysis (factor D).

Hypothesis 3 stated that for the factors identified at advanced-level, there is no difference in importance ratings based on the number of years employed as an RD or the number of years employed in foodservice management. Regression analysis for the model was not statistically significant. Therefore, the hypothesis was not rejected.

Table 4. Factor Loading Matrix Following Varimax Rotation of a Three-Factor Solution for Financial Management Competencies for Entry-Level Dietitians

Competency	Factor Loadings[a] Factor A	Factor B	Factor C
FINANCIAL KNOWLEDGE (FACTOR A)			
2. Define basic financial terms.	0.56	0.22	0.28
3. Know purpose of financial reports.	0.64	0.29	0.23
4. Know financial goals of the operation (profit, break even, subsidized).	0.50	0.23	0.33
5. Know basic accounting and financial management principles.	0.61	0.31	0.23
6. Know how to prepare financial reports.	0.77	0.28	0.24
7. Use computer to generate financial information, budgets, reports.	0.65	0.26	0.20
8. Know depreciation methods and their application.	0.70	0.11	0.35
9. Use mission statement, goals, objectives, and plans in developing budgets.	0.65	0.30	0.35
10. Know appropriate application of different budgeting systems.	0.72	0.20	0.32
11. Collect appropriate information for budget planning.	0.69	0.31	0.33
12. Project units of service, cost, and revenue as basis for budgeting.	0.69	0.34	0.32
13. Justify budget requirements, including purchasing of new equipment and renovation.	0.66	0.30	0.36
14. Prepare budgets (operating budget, cash budget, and pro forma balance sheet).	0.74	0.29	0.34
15. Prepare capital budgets.	0.74	0.25	0.31
16. Use budget to establish cost control system.	0.69	0.33	0.36
17. Justify requests(using methods such as return on investment, time value of money, payback period, profitability index) for external or internal funding (i.e. Capital budgets, research proposals).	0.60	0.12	0.39
18. Monitor variance reports (budget to actual) and design a plan for corrective action.	0.64	0.34	0.38
COST CONTROL (FACTOR B)			
19. Determine food, labor, and operating cost per unit of service.	0.52	0.56	0.30
20. Develop and cost standardized recipes.	0.27	0.72	0.18
21. Develop and modify menus in relation to cost.	0.21	0.70	0.22
22. Price menu items in accordance with established pricing strategies.	0.27	0.76	0.24
23. Maintain cost control through receiving, storage, inventory, and sanitation procedures.	0.26	0.72	0.27
24. Utilize precost and precontrol systems for forecasting.	0.38	0.57	0.32
25. Write purchase specifications and orders.	0.36	0.56	0.37

Table 4 (Continued)

Competency	Factor Loadings* Factor A	Factor B	Factor C
26. Supervise cafeteria cash activities and reporting.	0.30	0.65	0.38
27. Monitor procedures for billing, cash handling, and handling of non-cash income.	0.34	0.57	0.44
BUDGETING AND FINANCIAL ANALYSIS (FACTOR C)			
1. Know reimbursement policies (such as DRGs, medicare, medicaid, private insurance).	0.36	-0.02	0.43
28. Analyze financial impact of operational decisions.	0.39	0.43	0.57
29. Analyze cost/benefits programs and courses of action.	0.32	0.33	0.66
30. Develop financial ratios related to profits, investments, and assets.	0.55	0.15	0.58
31. Assess financial status based on approved budget.	0.42	0.31	0.66
32. Assess financial status based on profit and loss statement.	0.45	0.29	0.64
33. Analyze cash flow.	0.47	0.29	0.61
34. Makes decisions based on the balance sheet and income statement.	0.47	0.29	0.63
35. Identify sources of funds and solicit funds for new projects.	0.30	0.11	0.71
36. Authorize expenditures.	0.41	0.27	0.64
37. Establish financial objectives of department.	0.39	0.27	0.68
38. Establish and implement fees for service.	0.20	0.24	0.71
39. Develop plan for collection of fees and accounts.	0.21	0.16	0.73
40. Calculate and use break-even analysis information.	0.33	0.27	0.70
41. Determine cost effectiveness of make vs. buy decisions.	0.27	0.43	0.65
42. Develop plans to generate revenue.	0.15	0.30	0.68
43. Know process for internal/external audits.	0.25	0.20	0.67
44. Calculate contribution margin.	0.36	0.19	0.70
45. Determine labor hour requirements in relation to volume and budget per unit of service.	0.29	0.41	0.65
46. Recommend wage and salary adjustments for employees.	0.36	0.36	0.65
47. Determine appropriate use of part-time and over-time labor.	0.32	0.44	0.60
48. Estimate personnel costs for a facility for budget and planning purposes.	0.34	0.40	0.66
49. Know insurance, tax, and other personnel-related requirements.	0.30	0.21	0.67
50. Calculate turnover and absenteeism costs.	0.30	0.32	0.70

*Items were assigned to factors based on the highest factor loading; some items may have high loadings on more than one factor.

Table 5. Factor Loading Matrix Following Varimax Rotation of a Four-Factor Solution for Financial Management Competencies for Advanced-Level Dietitians

Competency	Factor Loadings* Factor A	Factor B	Factor C	Factor D
FINANCIAL KNOWLEDGE (FACTOR A)				
1. Know reimbursement policies (such as DRGs, medicare, medicaid, private insurance).	0.42	0.03	0.06	0.37
2. Define basic financial terms.	0.65	0.20	0.13	0.22
3. Know purpose of financial reports.	0.67	0.27	0.16	0.13
4. Know financial goals of the operation (profit, break even, subsidized).	0.61	0.24	0.15	0.25
5. Know basic accounting and financial management principles.	0.67	0.21	0.26	0.27
6. Know how to prepare financial reports.	0.58	0.32	0.21	0.25
7. Use computer to generate financial information, budgets, reports.	0.55	0.15	0.22	0.22
8. Know depreciation methods and their application.	0.52	0.15	0.17	0.44
9. Use mission statement, goals, objectives, and plans in developing budgets.	0.50	0.44	0.14	0.21
10. Know appropriate application of different budgeting systems.	0.55	0.25	0.21	0.38
17. Justify requests (using methods such as return on investment, time value of money payback period, profitability index) for external or internal funding (i.e. Capital budgets, research proposals).	0.45	0.29	0.07	0.42
BUDGETING (FACTOR B)				
11. Collect appropriate information for budget planning.	0.47	0.56	0.26	0.22
12. Project units of service, cost, and revenue as basis for budgeting.	0.51	0.58	0.26	0.17
13. Justify budget requirements, including purchasing of new equipment and renovation.	0.43	0.65	0.18	0.06
14. Prepare budgets (operating budget, cash budget, and pro forma balance sheet).	0.49	0.56	0.27	0.24
15. Prepare capital budgets.	0.44	0.56	0.23	0.26
16. Use budget to establish cost control system.	0.50	0.59	0.23	0.20
18. Monitor variance reports (budget to actual) and design a plan for corrective action.	0.42	0.56	0.24	0.22
19. Determine food, labor, and operating cost per unit of service.	0.35	0.52	0.45	0.15

Table 5 (Continued)

Competency	Factor Loadings[a] Factor A	Factor B	Factor C	Factor D
23. Maintain cost control through receiving, storage, inventory, and sanitation procedures.	0.28	0.53	0.49	0.11
27. Monitor procedures for billing, cash handling, and handling non-cash income.	0.24	0.48	0.44	0.40
28. Analyze financial impact of operational decisions.	0.33	0.57	0.26	0.33
29. Analyze cost/benefits of programs and courses of action.	0.30	0.42	0.24	0.42
31. Assess financial status based on approved budget.	0.32	0.58	0.11	0.50
36. Authorize expenditures.	0.22	0.53	0.25	0.44
37. Establish financial objectives of department.	0.26	0.64	0.22	0.38
41. Determine cost effectiveness of make vs. buy decisions.	0.17	0.49	0.36	0.45
45. Determine labor hour requirements in relation to volume and budget per unit of service.	0.20	0.50	0.31	0.41
46. Recommend wage and salary adjustments for employees.	0.11	0.54	0.29	0.43
47. Determine appropriate use of part-time and over-time labor.	0.14	0.58	0.31	0.32
48. Estimate personnel costs for a facility for budget and planning purposes.	0.17	0.64	0.25	0.42
COST CONTROL (FACTOR C)				
20. Develop and cost standardized recipes.	0.21	0.15	0.76	0.19
21. Develop and modify menus in relation to cost.	0.21	0.19	0.73	0.22
22. Price menu items in accordance with established pricing strategies.	0.25	0.31	0.69	0.21
24. Utilize precost and precontrol systems for forecasting.	0.35	0.32	0.41	0.35
25. Write purchase specifications and orders.	0.28	0.37	0.41	0.25
26. Supervise cafeteria cash activities and reporting.	0.13	0.39	0.57	0.27
FINANCIAL ANALYSIS (FACTOR D)				
30. Develop financial ratios related to profits, investments, and assets.	0.33	0.27	0.11	0.67
32. Assess financial status based on profit and loss statement.	0.32	0.53	0.06	0.54
33. Analyze cash flow.	0.25	0.47	0.11	0.59
34. Makes decisions based on the balance sheet and income statement.	0.26	0.45	0.05	0.64

Table 5 (Continued)

Competency	Factor Loadings*			
	Factor A	Factor B	Factor C	Factor D
35. Identify sources of funds and solicit funds for new projects.	0.19	0.27	0.05	0.64
38. Establish and implement fees for service.	0.11	0.22	0.37	0.49
39. Develop plan for collection of fees and accounts.	0.17	0.05	0.24	0.62
40. Calculate and use break-even analysis information.	0.26	0.39	0.30	0.58
42. Develop plans to generate revenue.	0.17	0.25	0.17	0.51
43. Know process for internal/external audits.	0.27	0.09	0.21	0.63
44. Calculate contribution margin.	0.26	0.14	0.22	0.75
49. Know insurance, tax, and other personnel-related requirements.	0.19	0.23	0.22	0.59
50. Calculate turnover and absenteeism costs.	0.21	0.44	0.19	0.54

*Items were assigned to factors based on the highest factor loading; some items may have high loadings on more than one factor.

Support for Specialization

Almost 90% of respondents who were Registered (or registration-eligible) Dietitians and had an advanced educational degree supported specialization in foodservice management. Of those Registered (or registration-eligible) Dietitians who did not have an advanced educational degree, 86.2% supported specialization in this area. Table 6 shows the percentage of Registered (or registration-eligible) Dietitians, by their longevity of employment as RDs and employment in foodservice management, who support specialization in foodservice management. In every category, 82.1 to 91.3% of respondents supported specialization in this area, regardless of the number of years employed as an RD or in foodservice management.

Written comments of respondents who did not support specialization certification in foodservice management had a general theme. Numerous comments were made that specialization certification would not be practical for small or rural hospitals where one dietitian assumes clinical and administrative duties. Similarly, others commented that hospitals can not afford to hire two dietitians to do one job. Many commented that they would support specialization if it took place at the graduate level, after completion of the practice experience, or after being on the job for five years or longer. Others indicated

Table 6. Percentage of Registered or Registration Eligible Dietitians at Different Lengths of Employment Who Support Specialization in Foodservice Management (n=406)

	Percent
years worked as Registered Dietitian	
5 or less	88.9
6 to 10	83.2
11 to 15	91.3
16 to 20	88.5
21 to 25	85.7
more than 26	86.7
years worked in foodservice management	
5 or less	86.6
6 to 10	90.0
11 to 15	91.2
16 to 20	95.7
21 to 25	82.1
more than 26	84.2

that joining an organization like ASHFA would be more beneficial than certification. For those respondents who wrote comments, there was general agreement that dietetic education needed to provide more business skills in areas of marketing, finance, management, and personnel. Supporters of specialization commented that if dietetic education did not strengthen skills in these areas, dietitians would continue to lose management jobs to those with business training but without training in nutrition.

CHAPTER V

DISCUSSION AND RECOMMENDATIONS

Financial management skills of entry- and advanced-level dietitians may become more important in times of economic uncertainty. As the profession of dietetics changes to meet new demands of the economic environment, these skills need to be delineated and strengthened. The introduction of specialty certification into the dietetic profession also necessitates that certain skills used at different levels of practice be identified. Research studies, which help practitioners define and identify the importance of skills used at entry- and advanced-levels of dietetic practice, are essential for the advancement of the profession.

This study has shown that, overall, foodservice directors/chief dietitians ranked the 50 financial management skills of some importance for entry-level dietitians and as more important for advanced-level dietitians. This is consistent with findings in the study of Dowling et al. (1990) who found that food and nutrition department directors and management dietetic educators ranked financial management as the third most important skill required for a director of food and nutrition. Yates et al. (1987) found that healthcare administrators

emphasized analytical ability and financial competencies as skills necessary for foodservice directors/managers as evidenced by the large number in their study who required bachelor of arts or science in business or a master in business administration.

Undergraduate Preparation

Various research studies have found that entry-level dietitians may be deficient in some management areas. Snyder et al. (1985) found that career-entry dietitians perceived themselves as competent in only three of 59 administrative competencies. Sanford et al. (1973) found that dietetic internship graduates thought their preparation was less than adequate in conceptual skills, including financial management. Rinke et al. (1982) found that employers perceived entry-level dietitians as having a mastery of technical skills but less preparation in areas requiring conceptual skills. Fruin and Lawler (1986) found that dietetic interns rated their competence in managing resources as lower than in all other foodservice management concepts.

These studies indicate that undergraduate dietetic education should be strengthened in financial management. Therefore, competencies that at least 50% of foodservice directors/chief dietitians rated "important" or "very

important" for entry-level dietitians should be covered in undergraduate curricula. These items include:

Develop and modify menus in relation to cost.
Develop and cost standardized recipes.
Maintain cost control through receiving, storage, inventory, and sanitation procedures.
Know financial goals of the operation (profit, break even, subsidized).
Price menu items in accordance with established pricing strategies.
Define basic financial terms.
Know purpose of financial reports.
Develop plans to generate revenue.

Graduate and Continuing Education Programs

Research on evaluating management concepts taught in dietetic graduate programs is limited. Seal et al. (1983) found that nine competencies, including "use financial analysis techniques," were expected of a dietitian with a master's degree. Ecklund et al. (1989) found that KSU Master of Science graduates recommended budgeting, financial planning and analysis, and cost control be added to the curriculum. Financial management skills, therefore, must be included in graduate and continuing education programs because more financial expertise is expected by employers of practitioners beyond entry-level.

When planning graduate curricula and continuing education, educators should consider including competencies related to the four identified factors for advanced-level dietitians. The competencies in each factor are listed in

descending order of mean importance ratings.

Financial Knowledge (factor A):

Know financial goals of the operation (profit, break even, subsidized).
Know purpose of financial reports.
Define basic financial terms.
Know basic accounting and financial management principles.
Use mission statement, goals, objectives, and plans in developing budgets.
Know reimbursement policies (such as DRGs, medicare, medicaid, private insurance.
Know how to prepare financial reports.
Justify requests(using methods such as return on investment, time value of money, payback period, profitability index) for external or internal funding (i.e. Capital budgets, research proposals).
Use computer to generate financial information, budgets, reports.
Know appropriate application of different budgeting systems.
Know depreciation methods and their application.

Budgeting (factor B):

Justify budget requirements, including purchasing of new equipment and renovation.
Determine food, labor, and operating cost per unit of service.
Determine appropriate use of part-time and over-time labor.
Use budget to establish cost control system.
Analyze cost/benefits of programs and courses of action.
Collect appropriate information for budget planning.
Project units of service, cost, and revenue as basis for budgeting.
Monitor variance reports (budget to actual) and design a plan for corrective action.
Maintain cost control through receiving, storage, inventory, and sanitation procedures.
Analyze financial impact of operational decisions.
Determine labor hour requirements in relation to volume and budget per unit of service.
Recommend wage and salary adjustments for employees.
Prepare budgets (operating budget, cash budget, and pro forma balance sheet).
Establish financial objectives of department.
Determine cost effectiveness of make vs. buy decisions.

Assess financial status based on approved budget.
Estimate personnel costs for a facility for budget and planning purposes.
Prepare capital budgets.
Monitor procedures for billing, cash handling, and handling of non-cash income.
Authorize expenditures.

Cost Control (factor C):

Develop and modify menus in relation to cost.
Develop and cost standardized recipes.
Price menu items in accordance with established pricing strategies.
Write purchase specifications and orders.
Utilize precost and precontrol systems for forecasting.
Supervise cafeteria cash activities and reporting.

Financial Analysis (factor D):

Develop plans to generate revenue.
Establish and implement fees for service.
Assess financial status based on profit and loss statement.
Makes decisions based on the balance sheet and income statement.
Calculate turnover and absenteeism costs.
Develop plan for collection of fees and accounts.
Calculate and use break-even analysis information.
Analyze cash flow.
Identify sources of funds and solicit funds for new projects.
Know process for internal/external audits.
Know insurance, tax, and other personnel-related requirements.
Develop financial ratios related to profits, investments, and assets.
Calculate contribution margin.

Specialization

Specialization may help dietitians to be perceived as having more expertise in their chosen area of practice. For the dietitian practicing in foodservice systems management,

specialization may signal the need to strengthen skills. For example, this study shows that for financial management higher levels of skills are expected for the advanced-level dietitian. The same may be true, therefore, for other areas of management. Respondents in this study showed strong support for specialization within the area of foodservice management. This finding is consistent with Sandrick (1989), who found that 82.1% of directors of hospital dietary departments supported specialization.

Future Studies

This study determined the importance of 50 financial management competencies for entry- and advanced-level dietitians as perceived by hospital foodservice directors/chief dietitians. Since 83% of the respondents in this study were RDs, it may be useful to survey non-Registered Dietitians to see if their views are similar. Foodservice directors who work in a setting other than a hospital could be surveyed to determine if different skills are needed in different settings. Another research study could determine foodservice directors' perceived adequacy of preparation in financial management for entry- and advanced-level dietitians. These data could be used to evaluate current dietetic education programs and for undergraduate, graduate, and continuing education program development.

Other studies could compare foodservice directors'/chief dietitians' importance ratings for financial management competencies with those of dietetic educators. These data could be used by educators for program development and evaluation. Demographic data from this study showed that 66% of respondents had been working as an RD for six to 26 plus years. This group of dietitians could be surveyed to determine areas related to financial management in which they need continuing education programs. Educators and practitioners could then develop educational programs to meet identified needs.

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APPENDIXES

APPENDIX A

STAGE I FINANCIAL MANAGEMENT COMPETENCIES

FINANCIAL MANAGEMENT COMPETENCIES

Directions: Please read the list of financial management competencies. Mark through any competencies that you think is not or should not be done by an administrative dietitian. Add any that are not included that either is or should be done by dietitians. Please feel free to modify or edit any item included on our list. Remember, this list should include all activities related to financial management that would be done by either entry- or advanced-level administrative dietitians.

General

Define basic financial terms.

Know purpose of financial reports.

Know financial goals of the operation (profit, break even, subsidized).

Apply accounting and bookkeeping principles.

Prepare financial reports.

Use computer to generate financial information and reports.

Budgeting

Know appropriate application of different budgeting systems.

Collect appropriate information for budget planning.

Project units of service and revenue as basis for budgeting.

Justify budget requirements, including purchasing of new equipment and renovation.

Prepare budgets.

Prepare capital budgets.

Use budget to establish cost control system.

Prepare proposals to justify requests for external or internal funding (i.e. capital budgets, research proposals)

Cost Control

Determine food, labor, and operating costs.

Develop and cost standardized recipes.

Develop and modify menus in relation to cost.

Price menu items in accordance with established pricing strategies.

Maintain cost control through monitoring receiving, storage, inventory, and sanitation procedures.

Utilize precost and precontrol systems for forecasting.

Write purchase specifications and orders.

Supervise cafeteria cash activities and reporting.

Monitor procedures for billing, cash handling, and handling of non-cash income.

Financial Analysis

Analyze investments.

Analyze financial impact.

Analyze cost/benefits of programs and courses of action.

Complete variance analysis.

Assess financial status based on approved budget.

Assess financial status based on profit and loss statement.

Analyze cash flow.

Make decisions based on the balance sheet and income statement.

Identify sources of funds and solicit funds for new projects.

Authorize expenditures.

Establish financial objectives of department.

Establish and implement fees for service.

Develop plan for collection of fees and accounts.

Conduct break-even analysis.

Develop plans to generate revenue.

Know process for internal/external audits.

Personnel

Determine labor hour requirements in relation to volume and budget.

Recommend wage and salary adjustments for employees.

Develop guidelines for salary scales and merit raises.

Estimate personnel costs for a facility.

Complete insurance, tax, and other personnel-related forms.

Other

Please write in any financial management competencies that we may have forgotten.

_____

_____

_____

_____

_____

_____

_____

THANK YOU FOR HELPING US WITH THIS STUDY

APPENDIX B

STAGE I PHONE SCRIPT

Phone script:

Ms. (Mr.) _____. My name is Elisabeth Cochrane and I am a graduate student at the University of Tennessee in Knoxville, TN. Do you have a few minutes to talk to me?

I am in the process of assembling a panel of experts in the area of foodservice financial management and would like your participation. This would involve reviewing a list of financial management competencies. This list has been developed from the ADA Role Delineation Study for Entry-Level Dietitians and from various research articles. I need this information to develop a survey that will attempt to define entry- and advanced-level financial management competencies that could perhaps be used for specialty certification or for topics for graduate courses or continuing education.

This list will be mailed to you and it will take no more than 30 minutes of your time to review. I will mail the list to you in the next couple of days. Could you please review it and mail it back by March 14th? Let me make sure I have your correct address. Is it....Thank you for your time and willingness to participate.

APPENDIX C

STAGE I COVER LETTER

THE UNIVERSITY OF TENNESSEE
KNOXVILLE

February 23, 1990

College of
Human Ecology

Nutrition and
Food Science

Carol May, MS, RD
Director of Nutrition Services
East Tennessee Baptist Hospital
P.O. Box 1788
Knoxville, TN 37901

Dear Ms. May:

Thank you for agreeing to serve on the expert panel which will assist in developing a list of financial management competencies for administrative dietitians. Changes in the health care field have necessitated that dietitians become more financially astute. Some research studies have found that dietitians are not as well prepared in financial management as required by health care administrators. In addition, The American Dietetic Association is considering specialty certification for advanced-level practitioners. Thus, we want to identify financial management competencies for entry- and advanced-level dietitians.

Please review this list of financial management activities. Delete any that you think should not be done by dietitians and add any that are not included. Responses of the expert panel will be used to develop a survey for hospital foodservice directors, Plan IV/V directors, dietetic internship directors, and approved preprofessional practice program directors.

We appreciate your willingness to help us with this study. Please return this questionnaire in the enclosed self-addressed, postage-paid envelope by March 14, 1990.

Sincerely,

Elisabeth Cochrane	Melinda Anderson	Jeannie Sneed, PhD, RD
Graduate Student	Graduate Student	Assistant Professor

JS/mh

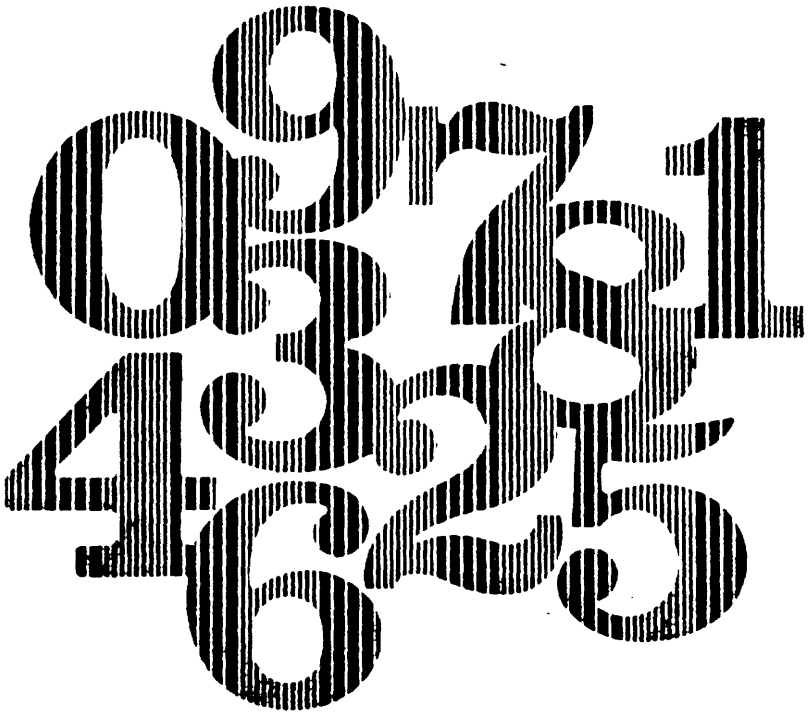
Enclosures: questionnaire
return envelope

1215 West Cumberland Avenue, Room 229 Knoxville, Tennessee, 37996-1900 / (615) 974-5445, 974-3491

APPENDIX D

STAGE III QUESTIONNAIRE, COVER LETTER, AND CRITIQUE FORM

FINANCIAL MANAGEMENT COMPETENCIES FOR ENTRY- AND ADVANCED-LEVEL DIETITIANS



Department of Nutrition and Food Sciences
College of Human Ecology
The University of Tennessee
Knoxville, TN 37996-1900

April 1990

PART I. IMPORTANCE OF FINANCIAL MANAGEMENT COMPETENCIES AT ENTRY- AND ADVANCED-LEVEL DIETETIC PRACTIC

INSTRUCTIONS: Please read the following foodservice financial management competencies and indicate how important each is to dietetic practice at entry-level and at advanced-level on a 4-point scale with "0" as not important and "3" as very important. An entry-level position has been defined by The American Dietetic Association as a position requiring the minimum level of training/experience or as a position which can be filled by a person with three years or less experience.

	Importance to Job at Entry-level				Importance to Job at Advanced-level			
	not important	some importance	important	very important	not important	some importance	important	very important
1. Know reimbursement policies (such as DRGs, medicare, medicaid, private insurance).	0	1	2	3	0	1	2	3
2. Define basic financial terms.	0	1	2	3	0	1	2	3
3. Know purpose of financial reports.	0	1	2	3	0	1	2	3
4. Know financial goals of the operation (profit, break even, subsidized).	0	1	2	3	0	1	2	3
5. Know basic accounting and financial management principles.	0	1	2	3	0	1	2	3
6. Know how to prepare financial reports.	0	1	2	3	0	1	2	3
7. Use computer to generate financial information, budgets, and reports.	0	1	2	3	0	1	2	3
8. Know depreciation methods and their application.	0	1	2	3	0	1	2	3
9. Use mission statement, goals, objectives, and plans in developing budgets.	0	1	2	3	0	1	2	3
10. Know appropriate application of different budgeting systems.	0	1	2	3	0	1	2	3
11. Collect appropriate information for budget planning.	0	1	2	3	0	1	2	3
12. Project units of service, cost, and revenue as basis for budgeting.	0	1	2	3	0	1	2	3
13. Justify budget requirements, including purchasing of new equipment and renovation.	0	1	2	3	0	1	2	3
14. Prepare budgets (operating budget, cash budget, and pro forma balance sheet).	0	1	2	3	0	1	2	3
15. Prepare capital budgets.	0	1	2	3	0	1	2	3
16. Use budget to establish cost control system.	0	1	2	3	0	1	2	3
17. Justify requests (using methods such as return on investment, time value of money, payback period, profitability index) for external or internal funding (i.e. capital budgets, research proposals).	0	1	2	3	0	1	2	3
18. Monitor variance reports (budget to actual) and design a plan for corrective action.	0	1	2	3	0	1	2	3
19. Determine food, labor, and operating costs per unit of service.	0	1	2	3	0	1	2	3
20. Develop and cost standardized recipes.	0	1	2	3	0	1	2	3
21. Develop and modify menus in relation to cost.	0	1	2	3	0	1	2	3
22. Price menu items in accordance with established pricing strategies.	0	1	2	3	0	1	2	3
23. Maintain cost control through monitoring receiving, storage, inventory, and sanitation procedures.	0	1	2	3	0	1	2	3

	Importance to Job at Entry-level				Importance to Job at Advanced-level			
	not important	some importance	important	very important	not important	some importance	important	very important
24. Utilize precost and precontrol systems for forecasting.	0	1	2	3	0	1	2	3
25. Write purchase specifications and orders.	0	1	2	3	0	1	2	3
26. Supervise cafeteria cash activities and reporting.	0	1	2	3	0	1	2	3
27. Monitor procedures for billing, cash handling, and handling of non-cash income.	0	1	2	3	0	1	2	3
28. Analyze financial impact of operational decisions.	0	1	2	3	0	1	2	3
29. Analyze cost/benefits of programs and courses of action.	0	1	2	3	0	1	2	3
30. Develop financial ratios related to profits, investments, and assets.	0	1	2	3	0	1	2	3
31. Assess financial status based on approved budget.	0	1	2	3	0	1	2	3
32. Assess financial status based on profit and loss statement.	0	1	2	3	0	1	2	3
33. Analyze cash flow.	0	1	2	3	0	1	2	3
34. Make decisions based on the balance sheet and income statement.	0	1	2	3	0	1	2	3
35. Identify sources of funds and solicit funds for new projects.	0	1	2	3	0	1	2	3
36. Authorize expenditures.	0	1	2	3	0	1	2	3
37. Establish financial objectives of department.	0	1	2	3	0	1	2	3
38. Establish and implement fees for service.	0	1	2	3	0	1	2	3
39. Develop plan for collection of fees and accounts.	0	1	2	3	0	1	2	3
40. Calculate and use break-even analysis information.	0	1	2	3	0	1	2	3
41. Determine cost effectiveness of make vs. buy decisions.	0	1	2	3	0	1	2	3
42. Develop plans to generate revenue.	0	1	2	3	0	1	2	3
43. Know process for internal/external audits.	0	1	2	3	0	1	2	3
44. Calculate contribution margin.	0	1	2	3	0	1	2	3
45. Determine labor hour requirements in relation to volume and budget per unit of service.	0	1	2	3	0	1	2	3
46. Recommend wage and salary adjustments for employees.	0	1	2	3	0	1	2	3
47. Determine appropriate use of part-time and over-time labor.	0	1	2	3	0	1	2	3
48. Estimate personnel costs for a facility for budget and planning purposes.	0	1	2	3	0	1	2	3
49. Know insurance, tax, and other personnel-related requirements.	0	1	2	3	0	1	2	3
50. Calculate turnover and absenteeism costs.	0	1	2	3	0	1	2	3

PART II. ADEQUACY OF FINANCIAL MANAGEMENT PREPARATION OF ENTRY-LEVEL DIETITIANS

INSTRUCTIONS: Please read same list of foodservice financial management competencies and indicate the adequacy of dietitians' preparation at entry-level for each competency on a 5-point scale with "0" as totally inadequate and "4" as very adequate.

	Adequacy of Preparation at Entry-level				
	totally inadequate	inadequate	somewhat inadequate	adequate	very adequate
	0	1	2	3	4
1. Know reimbursement policies (such as DRGs, medicare, medicaid, private insurance).	0	1	2	3	4
2. Define basic financial terms.	0	1	2	3	4
3. Know purpose of financial reports.	0	1	2	3	4
4. Know financial goals of the operation (profit, break even, subsidized).	0	1	2	3	4
5. Know basic accounting and financial management principles.	0	1	2	3	4
6. Know how to prepare financial reports.	0	1	2	3	4
7. Use computer to generate financial information, budgets, and reports.	0	1	2	3	4
8. Know depreciation methods and their application.	0	1	2	3	4
9. Use mission statement, goals, objectives, and plans in developing budgets.	0	1	2	3	4
10. Know appropriate application of different budgeting systems.	0	1	2	3	4
11. Collect appropriate information for budget planning.	0	1	2	3	4
12. Project units of service, cost, and revenue as basis for budgeting.	0	1	2	3	4
13. Justify budget requirements, including purchasing of new equipment and renovation.	0	1	2	3	4
14. Prepare budgets (operating budget, cash budget, and pro forma balance sheet).	0	1	2	3	4
15. Prepare capital budgets.	0	1	2	3	4
16. Use budget to establish cost control system.	0	1	2	3	4
17. Justify requests (using methods such as return on investment, time value of money, payback period, profitability index) for external or internal funding (i.e. capital budgets, research proposals).	0	1	2	3	4
18. Monitor variance reports (budget to actual) and design a plan for corrective action.	0	1	2	3	4
19. Determine food, labor, and operating costs per unit of service.	0	1	2	3	4
20. Develop and cost standardized recipes.	0	1	2	3	4
21. Develop and modify menus in relation to cost.	0	1	2	3	4
22. Price menu items in accordance with established pricing strategies.	0	1	2	3	4
23. Maintain cost control through monitoring receiving, storage, inventory, and sanitation procedures.	0	1	2	3	4

	Adequacy of Preparation at Entry-level				
	totally inadequate	inadequate	somewhat inadequate	adequate	very adequate
24. Utilize precost and precontrol systems for forecasting.	0	1	2	3	4
25. Write purchase specifications and orders.	0	1	2	3	4
26. Supervise cafeteria cash activities and reporting.	0	1	2	3	4
27. Monitor procedures for billing, cash handling, and handling of non-cash income.	0	1	2	3	4
28. Analyze financial impact of operational decisions.	0	1	2	3	4
29. Analyze cost/benefits of programs and courses of action.	0	1	2	3	4
30. Develop financial ratios related to profits, investments, and assets.	0	1	2	3	4
31. Assess financial status based on approved budget.	0	1	2	3	4
32. Assess financial status based on profit and loss statement.	0	1	2	3	4
33. Analyze cash flow.	0	1	2	3	4
34. Make decisions based on the balance sheet and income statement.	0	1	2	3	4
35. Identify sources of funds and solicit funds for new projects.	0	1	2	3	4
36. Authorize expenditures.	0	1	2	3	4
37. Establish financial objectives of department.	0	1	2	3	4
38. Establish and implement fees for service.	0	1	2	3	4
39. Develop plan for collection of fees and accounts.	0	1	2	3	4
40. Calculate and use break-even analysis information.	0	1	2	3	4
41. Determine cost effectiveness of make vs. buy decisions.	0	1	2	3	4
42. Develop plans to generate revenue.	0	1	2	3	4
43. Know process for internal/external audits.	0	1	2	3	4
44. Calculate contribution margin.	0	1	2	3	4
45. Determine labor hour requirements in relation to volume and budget per unit of service.	0	1	2	3	4
46. Recommend wage and salary adjustments for employees.	0	1	2	3	4
47. Determine appropriate use of part-time and over-time labor.	0	1	2	3	4
48. Estimate personnel costs for a facility for budget and planning purposes.	0	1	2	3	4
49. Know insurance, tax, and other personnel-related requirements.	0	1	2	3	4
50. Calculate turnover and absenteeism costs.	0	1	2	3	4

PART III. DEMOGRAPHIC CHARACTERISTICS

INSTRUCTIONS: Please answer the following questions about yourself and your hospital to help us analyze the results of this questionnaire.

Q-1. Gender (Circle one)

1 Male
2 Female

Q-2. Which educational degrees beyond high school have you obtained? (Circle all that apply)

0 None
1 Technical/Associate degree
2 B.S. Dietetics/Food & Nutrition
3 B.S. Home Economics
4 B.S. Hotel & Restaurant Administration
5 B.S. Business
6 M.S. Nutrition
7 M.S. Institutional or Food Management
8 M.B.A.
9 Ph.D./Ed.D
10 Other, please specify_____

Q-3. Are you a registered dietitian? (Circle one)

1 Yes
2 No

If no, go to question 7.

Q-4. What was your route to registration? (Circle one)

1 Approved Preprofessional Practice Program
2 Coordinated Program
3 Dietetic Internship
4 Traineeship
5 3-Year experience
6 Advanced degree plus 6-Month experience
7 Ph.D.

Q-5. How many years have you worked as a registered dietitian? (Circle one)

1 0-5 years
2 6-10 years
3 11-15 years
4 16-20 years
5 21 or more years

Q-6. Do you think the dietetic profession should establish specialization in foodservice management? (Circle one)

1 Yes
2 No

If no, why not?_____

_____

Q-7. How many years have you been employed in foodservice management? (Circle one)

1 0-5 years
2 6-10 years
3 11-15 years
4 16-20 years
5 21 or more years

Q-8. Which of the following characteristics describe your hospital? (Circle all that apply)

1 Not for profit
2 For profit
3 Teaching
4 Non-teaching
5 Corporate owned
6 Multi-System
7 Government owned (Federal)
8 Government owned (State, county, or city)
9 Church affiliated
10 University/Medical school
11 Other, please specify_____

Q-9. Number of beds (Circle one)

1 199 or fewer beds
2 200-399 beds
3 400 beds or larger

Q-10. Who manages your foodservice department? (Circle one)

1 Facility/self-operated
2 Contract company

THANK YOU FOR YOUR PARTICIPATION

THE UNIVERSITY OF TENNESSEE
KNOXVILLE

April 2, 1990

College of
Human Ecology

Nutrition and
Food Science

Dear Foodservice Director:

Changes in health care necessitate that dietitians develop and improve their financial management skills. In addition, more dietitians are seeking advanced degrees and the dietetic profession is considering specialty certification for advanced-level practitioners. Therefore, it is important to develop financial management competencies at both entry- and advanced-level practice.

We have developed a comprehensive list of financial management competencies based on the dietetic research literature and work with an expert panel of dietitians employed as hospital dietary department directors. Now we would like you, as a hospital foodservice director, to help us identify the importance of these competencies at entry- and advanced-level practice. We would also like you to indicate how well you think entry-level dietitians are prepared in financial management when they begin their first job.

You do not have to be a registered dietitian to participate in this study. Your responses will be confidential. The code number indicated on the form will only be used to identify who to send reminder cards to, thus, decreasing the cost of the survey. Please return your completed survey in the enclosed self-addressed, postage-paid envelope by April 23.

As a participant in our pilot study, we need your help in clarifying the questionnaire. Please complete the questionnaire. After it is complete, please fill out the Questionnaire Critique form that we have enclosed. Indicate any questions you have on either the questionnaire or the critique form.

Your response is important to the success of this study and we greatly appreciate it. The results of this study could be used to strengthen undergraduate and graduate dietetic education, to plan continuing education, and to identify competencies for specialty certification. Thank you for your assistance.

Sincerely,

Elisabeth Cochrane
Graduate Teaching Assistant

Jeannie Sneed, PhD, RD
Assistant Professor

1215 West Cumberland Avenue, Room 229 / Knoxville, Tennessee, 37996-1900 / (615) 974-5445, 974-3491

QUESTIONNAIRE CRITIQUE

We want to make sure that this questionnaire and cover letter are clear and easy to respond to before starting our research project. Please assist us by answering the following questions. Revisions will be made based on your suggestions and comments.

1. Does the cover letter provide a clear understanding of the purpose of the study?

   _____**Yes**
   _____**No**

   If no, what suggestions do you have for improving the cover letter?

   _____

   _____

   _____

2. Are instructions for completing the questionnaire clearly stated?

   _____**Yes**
   _____**No**

3. Are questions stated clearly?

   _____**Yes**
   _____**No**

   If no, which questions are not clear?_____

4. Are instructions for returning the questionnaire clear?

   _____**Yes**
   _____**No**

5. Approximately how long did it take you to complete the questionnaire?

   _____ **minutes**

6. What suggestions do you have for improving the questionnaire?

   _____

   _____

   _____

   _____

THANK YOU FOR YOUR ASSISTANCE

APPENDIX E

HUMAN SUBJECTS REVIEW AND APPROVAL FORM

(PLEASE TYPE ON THIS FORM)
(Instructions on reverse side of this form)

FORM A
Certification of Exemption from Review for Research Involving Human Subjects

CRP# 3241 A
Date Received in ORC APR 18 1990

A. **PROJECT DIRECTOR(s) and/or CO-DIRECTOR(s):** (For student projects, list both the student and the advisor)
Jeannie Sneed, PhD, RD, Melinda Anderson, Elisabeth Cochrane

B. **COMPLETE MAILING ADDRESS and PHONE NUMBER OF PD(s) and CO-PD:**
229 Jessie Harris Building
974-5445

C. **TITLE OF PROJECT:**
Development of financial management competencies for entry- and advanced-level dietitiar

D. **DEPARTMENT:**
Nutrition and Food Sciences

E. **EXTERNAL FUNDING AGENCY AND ID NUMBER** (if applicable):
N/A

F. **GRANT SUBMISSION DEADLINE** (if applicable):
May 15, 1990

G. **STARTING DATE:** "Upon certification by Director of Research Compliances"
(NO RESEARCH MAY BE INITIATED UNTIL CERTIFICATION IS GRANTED)
July 1, 1990

H. **ESTIMATED COMPLETION DATE:**
(Include all aspects of research and final write-up)
June 30, 1991

I. **Objective(s) of Project:** (see reverse or Flyer #3)
The purpose of this study is to:
1. Develop a list of financial management competencies.
2. Determine importance of financial management competencies for entry- and advanced-level dietetic practice as perceived by Plan IV/V, Dietetic Internship and AP4 Program Directors and Directors of hospital dietary departments.
3. Determine the adequacy of preparation of entry-level dietitians as perceived by Plan IV/V, Dietetic Internship and AP4 Programs directors and hospital dietary department directors.

II. **Subjects:** (see reverse or Flyer #3)
Subjects for the study include 675 hospital dietary department directors, 125 Plan IV/V directors, 98 Dietetic Internship Directors, and 50 AP4 Program Directors. A random selection procedure will be used for the hospital dietary directors and Plan IV/V directors and the total population will be used for the Dietetic Internship directors and the AP4 directors. Subjects will be asked to respond to a written survey, which will take about 20-30 minutes to complete.

III. **Methods or Procedures:** (see reverse or Flyer #3)
Two questionnaires attached were developed by the researchers: the white one will be mailed to hospital dietary department directors, the blue one will be mailed to directc of the educational programs. The attached cover letters will be sent with the questionnaire and will explain that code numbers are only being used for follow-up purposes, that all data will be held confidential, and that all data will be reported as group data. Participation will be voluntary, subjects can choose whether to respond or not and response will indicate consent to participate. No perceived risks are involved in the study. Benefits are that the study will identify financial management competencies, report the importance of these competencies to practitioners, and serve as the basis for educational programs, continuing education activities, and specialty certification. The code numbers with the list of participants will be destroyed after followup reminders are mailed to the study sample. Thus, no names of participants will be retained.

IV. **CATEGORY(s) FOR EXEMPT RESEARCH PER 45 CFR 46:** 3,5 (see reverse side for categories)

CERTIFICATION: The research described herein is in compliance with 45 CFR 46 101(b) and presents subjects with no more than minimal risk as defined by applicable regulations.

	Name	Signature	Date
Investigator	Elisabeth Cochrane	Elisabeth Cochrane	4/12/90
Advisor	Jeannie Sneed	Jeannie Sneed	4/12/90
Dept. Head	James D Morris II	[signature]	4-12-90
CERTIFICATION BY DIRECTOR, OFFICE OF RESEARCH COMPLIANCES	Melinda Anderson	Melinda Anderson	5-23-90

REVISED 9/87
4/12/90

THE UNIVERSITY OF TENNESSEE
KNOXVILLE

Office of the
Vice Provost
for Research

CRP #: 3241 A DATE: 05/23/90

Title: Development of Financial management competencies for entry- and advanced-level dietitians

Anderson, Melinda
Nutrition & Food Sciences
229 Jessie Harris Bldg.
Campus

[redacted]
Nutrition & Food Sciences
229 Jessie Harris Bldg.
Campus

The project listed above has been certified exempt from review by the Committee on Research Participation and is approved.

This certification is for a period ending one year from the date of this letter. Please make timely submission of renewal or prompt notification of project termination (see item #2 below).

The responsibilities of the project director include the following:

1. Prior approval from the Coordinator of Compliances must be obtained before any changes in the project are instituted.

2. Submission of a Form D at 12-month intervals attesting to the current status of the project (protocol is still in effect, project is terminated, etc.).

We wish you success in your research endeavors.

Sincerely,

Edith M. Szathmary

Edith M. Szathmary
Coordinator of Compliances

cc: Dr. James D. Moran III
229 Jessie Harris Bldg.

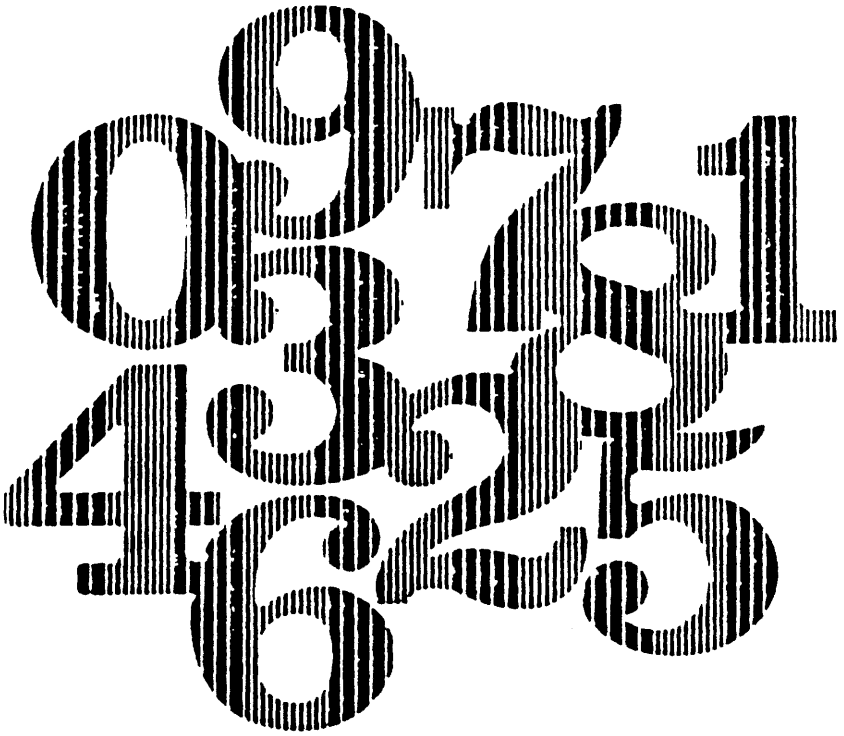
Attachment: Copy of Form A

404 Andy Holt Tower, Knoxville, Tennessee 37996-0140 (615) 974-3466

APPENDIX F

STAGE IV QUESTIONNAIRE AND COVER LETTER

FINANCIAL MANAGEMENT COMPETENCIES FOR ENTRY- AND ADVANCED-LEVEL DIETITIANS



Department of Nutrition and Food Sciences
College of Human Ecology
The University of Tennessee
Knoxville, TN 37996-1900

July 1990

PART I. IMPORTANCE OF FINANCIAL MANAGEMENT COMPETENCIES AT ENTRY- AND ADVANCED-LEVEL DIETETIC PRACTICE

INSTRUCTIONS: Please read the following foodservice financial management competencies and indicate how important each is for Registered Dietitians at BOTH ENTRY-LEVEL and ADVANCED-LEVEL on a 5-point scale with "0" as not important and "4" as very important. An entry-level position has been defined by The American Dietetic Association as a position requiring the minimum level of training/experience or as a position which can be filled by a person with three years or less experience. An advanced-level position requires work/experience, continuing education, and/or advanced coursework beyond that for entry-level.

	Importance to Job at Entry-level					Importance to Job at Advanced-level				
	not Important	of little Importance	some Importance	Important	very Important	not Important	of little Importance	some Importance	Important	very Important
1. Know reimbursement policies (such as DRGs, medicare, medicaid, private insurance).	0	1	2	3	4	0	1	2	3	4
2. Define basic financial terms.	0	1	2	3	4	0	1	2	3	4
3. Know purpose of financial reports.	0	1	2	3	4	0	1	2	3	4
4. Know financial goals of the operation (profit, break even, subsidized).	0	1	2	3	4	0	1	2	3	4
5. Know basic accounting and financial management principles.	0	1	2	3	4	0	1	2	3	4
6. Know how to prepare financial reports.	0	1	2	3	4	0	1	2	3	4
7. Use computer to generate financial information, budgets, and reports.	0	1	2	3	4	0	1	2	3	4
8. Know depreciation methods and their application.	0	1	2	3	4	0	1	2	3	4
9. Use mission statement, goals, objectives, and plans in developing budgets.	0	1	2	3	4	0	1	2	3	4
10. Know appropriate application of different budgeting systems.	0	1	2	3	4	0	1	2	3	4
11. Collect appropriate information for budget planning.	0	1	2	3	4	0	1	2	3	4
12. Project units of service, cost, and revenue as basis for budgeting.	0	1	2	3	4	0	1	2	3	4
13. Justify budget requirements, including purchasing of new equipment and renovation.	0	1	2	3	4	0	1	2	3	4
14. Prepare budgets (operating budget, cash budget, and pro forma balance sheet).	0	1	2	3	4	0	1	2	3	4
15. Prepare capital budgets.	0	1	2	3	4	0	1	2	3	4
16. Use budget to establish cost control system.	0	1	2	3	4	0	1	2	3	4
17. Justify requests (using methods such as return on investment, time value of money, payback period, profitability index) for external or internal funding (i.e. capital budgets, research proposals).	0	1	2	3	4	0	1	2	3	4
18. Monitor variance reports (budget to actual) and design a plan for corrective action.	0	1	2	3	4	0	1	2	3	4
19. Determine food, labor, and operating costs per unit of service.	0	1	2	3	4	0	1	2	3	4
20. Develop and cost standardized recipes.	0	1	2	3	4	0	1	2	3	4
21. Develop and modify menus in relation to cost.	0	1	2	3	4	0	1	2	3	4

	Importance to Job at Entry-level					Importance to Job at Advanced-level				
	not important	of little importance	some importance	important	very important	not important	of little importance	some importance	important	very important
22. Price menu items in accordance with established pricing strategies.	0	1	2	3	4	0	1	2	3	4
23. Maintain cost control through monitoring receiving, storage, inventory, and sanitation procedures.	0	1	2	3	4	0	1	2	3	4
24. Utilize precost and precontrol systems for forecasting.	0	1	2	3	4	0	1	2	3	4
25. Write purchase specifications and orders.	0	1	2	3	4	0	1	2	3	4
26. Supervise cafeteria cash activities and reporting.	0	1	2	3	4	0	1	2	3	4
27. Monitor procedures for billing, cash handling, and handling of non-cash income.	0	1	2	3	4	0	1	2	3	4
28. Analyze financial impact of operational decisions.	0	1	2	3	4	0	1	2	3	4
29. Analyze cost/benefits of programs and courses of action.	0	1	2	3	4	0	1	2	3	4
30. Develop financial ratios related to profits, investments, and assets.	0	1	2	3	4	0	1	2	3	4
31. Assess financial status based on approved budget.	0	1	2	3	4	0	1	2	3	4
32. Assess financial status based on profit and loss statement.	0	1	2	3	4	0	1	2	3	4
33. Analyze cash flow.	0	1	2	3	4	0	1	2	3	4
34. Make decisions based on the balance sheet and income statement.	0	1	2	3	4	0	1	2	3	4
35. Identify sources of funds and solicit funds for new projects.	0	1	2	3	4	0	1	2	3	4
36. Authorize expenditures.	0	1	2	3	4	0	1	2	3	4
37. Establish financial objectives of department.	0	1	2	3	4	0	1	2	3	4
38. Establish and implement fees for service.	0	1	2	3	4	0	1	2	3	4
39. Develop plan for collection of fees and accounts.	0	1	2	3	4	0	1	2	3	4
40. Calculate and use break-even analysis information.	0	1	2	3	4	0	1	2	3	4
41. Determine cost effectiveness of make vs. buy decisions.	0	1	2	3	4	0	1	2	3	4
42. Develop plans to generate revenue.	0	1	2	3	4	0	1	2	3	4
43. Know process for internal/external audits.	0	1	2	3	4	0	1	2	3	4
44. Calculate contribution margin.	0	1	2	3	4	0	1	2	3	4
45. Determine labor hour requirements in relation to volume and budget per unit of service.	0	1	2	3	4	0	1	2	3	4
46. Recommend wage and salary adjustments for employees.	0	1	2	3	4	0	1	2	3	4
47. Determine appropriate use of part-time and over-time labor.	0	1	2	3	4	0	1	2	3	4
48. Estimate personnel costs for a facility for budget and planning purposes.	0	1	2	3	4	0	1	2	3	4
49. Know insurance, tax, and other personnel-related requirements.	0	1	2	3	4	0	1	2	3	4
50. Calculate turnover and absenteeism costs.	0	1	2	3	4	0	1	2	3	4

PART II. PERSONAL AND PROFESSIONAL INFORMATION

INSTRUCTIONS: Please answer the following questions about yourself and your hospital to help us analyze the results of this questionnaire.

Q-1. Gender (Circle one)

1 Male
2 Female

Q-2. Please list the names of all educational degrees beyond high school that you have obtained (i.e. B.S. in dietetics or B.S. in hotel and restaurant administration).

_____

_____

Q-3. Are you a Registered Dietitian? (Circle one)

1 No
2 Yes

Q-4. What was your route to dietetic registration? _____

Q-5. How many years have you worked as a Registered Dietitian? _____

Q-6. Do you think the dietetic profession should establish specialization in foodservice management? (Circle one)

1 Yes
2 No

If no, why not? _____

_____

Q-7. How many years have you been employed in foodservice management? _____

Q-8. Which of the following characteristics describe your hospital? (Circle all that apply)

1 Not for profit
2 For profit
3 Teaching
4 Non-teaching
5 Corporate owned
6 Multi-System
7 Government owned (Federal)
8 Government owned (State, county, or city)
9 Church affiliated
10 University/Medical school
11 Other, please specify _____

_____

Q-9. Number of beds (Circle one)

1 199 or fewer beds
2 200-399 beds
3 400 beds or larger

Q-10. Who manages your foodservice department? (Circle one)

1 Facility/self-operated
2 Contract company

THANK YOU FOR YOUR PARTICIPATION

THE UNIVERSITY OF TENNESSEE
KNOXVILLE



College of
Human Ecology

Nutrition and
Food Science

July 9, 1990

Dear Foodservice Director:

Changes in health care necessitate that dietitians develop and improve their financial management skills. In addition, more dietitians are seeking advanced degrees and the dietetic profession is considering specialty certification for advanced-level practitioners. Therefore, it is important to identify management competencies for both entry- and advanced-level dietetic practice.

We have developed a comprehensive list of financial management competencies based on dietetic research literature and work with an expert panel of hospital dietary department directors. Now we would like you, as a hospital foodservice director, to help us identify the importance of these competencies for dietitians at entry- and advanced-level practice.

Your responses will be confidential and will be reported as group data. The code number indicated on the survey will only be used to identify to whom to send reminder cards, thus decreasing the cost of the survey. The code numbers with the list of participants will be destroyed after reminder cards are mailed. Please return your completed survey in the enclosed self-addressed, postage-paid envelope by July 25, 1990.

Your response is important to the success of this study and we greatly appreciate it. The results of this study will be used to strengthen undergraduate and graduate dietetic education, to plan continuing education, and to identify competencies for specialty certification. Thank you for your assistance.

Sincerely,

Elisabeth Cochrane
Graduate Assistant

Jeannie Sneed, PhD, RD
Assistant Professor

1215 West Cumberland Avenue, Room 229 / Knoxville, Tennessee, 37996-1900 / (615) 974-5445, 974-3491

APPENDIX G

FOLLOW-UP POSTCARD

Dear Foodservice Director:

You recently received a questionnaire to determine the importance of financial management competencies for both entry- and advanced-level dietitians. Results of this study may be used to strengthen dietetic education, to plan continuing education, and to identify competencies for specialty certification.

If you have already completed and returned the questionnaire, please accept our sincere thanks. If not, please take a few minutes to complete it and return it to us. Your response is important.

Your time and consideration are greatly appreciated.

Sincerely,

Elisabeth Cochrane
Graduate Assistant

Jeannie Sneed, Phd, RD
Assistant Professor

APPENDIX H

ITEM/TOTAL RELIABILITY CORRELATIONS

Correlation Analysis

Cronbach Coefficient Alpha

for RAW variables : 0.981364
for STANDARDIZED variables: 0.981291

	Raw Variables		Std. Variables	
Deleted Variable	Correlation with Total	Alpha	Correlation with Total	Alpha
EL1	0.425845	0.981585	0.426511	0.981535
EL2	0.577993	0.981259	0.579861	0.981200
EL3	0.617559	0.981181	0.620472	0.981111
EL4	0.594698	0.981232	0.598427	0.981159
EL5	0.653135	0.981110	0.654899	0.981035
EL6	0.724272	0.980958	0.723613	0.980883
EL7	0.625529	0.981178	0.627358	0.981095
EL8	0.676187	0.981063	0.676681	0.980987
EL9	0.738737	0.980925	0.739763	0.980847
EL10	0.721565	0.980966	0.721710	0.980887
EL11	0.750362	0.980902	0.751837	0.980820
EL12	0.757061	0.980885	0.758438	0.980806
EL13	0.728554	0.980948	0.728049	0.980873
EL14	0.768522	0.980856	0.768439	0.980784
EL15	0.741874	0.980918	0.742657	0.980841
EL16	0.779122	0.980840	0.779473	0.980759
EL17	0.671539	0.981074	0.671201	0.980999
EL18	0.787643	0.980813	0.787811	0.980741
EL19	0.739915	0.980924	0.742439	0.980841
EL20	0.618259	0.981179	0.622465	0.981106
EL21	0.581077	0.981248	0.585953	0.981186
EL22	0.665884	0.981084	0.668183	0.981005
EL23	0.657442	0.981102	0.659524	0.981025
EL24	0.686086	0.981042	0.687979	0.980962
EL25	0.683264	0.981048	0.684606	0.980969
EL26	0.662642	0.981115	0.663040	0.981017
EL27	0.724436	0.980959	0.723454	0.980883
EL28	0.783306	0.980832	0.783043	0.980751
EL29	0.750700	0.980910	0.750481	0.980823
EL30	0.766903	0.980869	0.764285	0.980793
EL31	0.808710	0.980770	0.807276	0.980697
EL32	0.801065	0.980784	0.800048	0.980713
EL33	0.789762	0.980808	0.787871	0.980741
EL34	0.795141	0.980802	0.794862	0.980725
EL35	0.662735	0.981094	0.661358	0.981020
EL36	0.767960	0.980856	0.765645	0.980790
EL37	0.795705	0.980796	0.793542	0.980728
EL38	0.679629	0.981055	0.679391	0.980981
EL39	0.639040	0.981165	0.637407	0.981073
EL40	0.755691	0.980889	0.755241	0.980813
EL41	0.761267	0.980874	0.759997	0.980802
EL42	0.639104	0.981142	0.639230	0.981069
EL43	0.639129	0.981150	0.639443	0.981069
EL44	0.740891	0.980923	0.737481	0.980852

Correlation Analysis

Deleted Variable	Raw Variables: Correlation with Total	Raw Variables: Alpha	Std. Variables: Correlation with Total	Std. Variables: Alpha
EL45	0.753466	0.980891	0.753103	0.980818
EL46	0.763927	0.980867	0.760615	0.980801
EL47	0.758213	0.980879	0.756852	0.980809
EL48	0.795342	0.980791	0.792986	0.980729
EL49	0.674458	0.981072	0.670163	0.981001
EL50	0.756028	0.980886	0.754953	0.980814

Correlation Analysis

Cronbach Coefficient Alpha

for RAW variables : 0.973708
for STANDARDIZED variables: 0.974890

	Raw Variables		Std. Variables	
Deleted Variable	Correlation with Total	Alpha	Correlation with Total	Alpha
AL1	0.420300	0.973826	0.417770	0.975038
AL2	0.565032	0.973399	0.570830	0.974617
AL3	0.562504	0.973427	0.571463	0.974615
AL4	0.579617	0.973415	0.586874	0.974573
AL5	0.646067	0.973193	0.649995	0.974398
AL6	0.634587	0.973213	0.639429	0.974427
AL7	0.550907	0.973502	0.549033	0.974677
AL8	0.618276	0.973389	0.608006	0.974514
AL9	0.621324	0.973249	0.627993	0.974459
AL10	0.674922	0.973100	0.670893	0.974340
AL11	0.727641	0.972985	0.734559	0.974163
AL12	0.740132	0.972968	0.749036	0.974122
AL13	0.628091	0.973260	0.638749	0.974429
AL14	0.761548	0.972854	0.770390	0.974063
AL15	0.728772	0.972925	0.732879	0.974167
AL16	0.708546	0.973095	0.723612	0.974193
AL17	0.613688	0.973284	0.608857	0.974512
AL18	0.704524	0.973044	0.712543	0.974224
AL19	0.655254	0.973189	0.669312	0.974344
AL20	0.525546	0.973495	0.535169	0.974715
AL21	0.544075	0.973457	0.555090	0.974660
AL22	0.622039	0.973251	0.632868	0.974445
AL23	0.640535	0.973214	0.650826	0.974395
AL24	0.698921	0.973019	0.696720	0.974268
AL25	0.595355	0.973320	0.600874	0.974534
AL26	0.626906	0.973275	0.630570	0.974452
AL27	0.735040	0.972904	0.735097	0.974161
AL28	0.712868	0.973016	0.719814	0.974204
AL29	0.657555	0.973200	0.662096	0.974364
AL30	0.714014	0.972996	0.699044	0.974261
AL31	0.776721	0.972801	0.773747	0.974053
AL32	0.750592	0.972857	0.745880	0.974131
AL33	0.729415	0.972924	0.719673	0.974204
AL34	0.740280	0.972886	0.732431	0.974168
AL35	0.590323	0.973405	0.581222	0.974588
AL36	0.724596	0.972947	0.722876	0.974195
AL37	0.748161	0.972937	0.751156	0.974116
AL38	0.559175	0.973418	0.555119	0.974660
AL39	0.511398	0.973744	0.500497	0.974811
AL40	0.743287	0.972877	0.736009	0.974159
AL41	0.689210	0.973074	0.691703	0.974282
AL42	0.546050	0.973459	0.541503	0.974698
AL43	0.567167	0.973449	0.556890	0.974655
AL44	0.687703	0.973146	0.670510	0.974341

Correlation Analysis

	Raw Variables		Std. Variables	
Deleted Variable	Correlation with Total	Alpha	Correlation with Total	Alpha
AL45	0.675443	0.973127	0.681734	0.974310
AL46	0.653763	0.973162	0.653488	0.974388
AL47	0.648849	0.973217	0.650860	0.974395
AL48	0.728392	0.972935	0.728240	0.974180
AL49	0.620934	0.973363	0.608225	0.974514
AL50	0.694490	0.973035	0.687459	0.974294

APPENDIX I

COMPETENCIES FOR ENTRY-LEVEL DIETITANS

WITH MEAN RATINGS OF LESS THAN 2.0

Table I. Competencies for Entry-Level Dietitians with Mean Ratings Less Than 2.0

8.	Know depreciation methods and their application.
10.	Know appropriate application of different budgeting systems.
14.	Prepare budgets (operating budget, cash budget, and pro forma balance sheet).
17.	Justify requests (using methods such as return on investment, time value of money, payback period, profitability index) for external funding (i.e. capital budgets, research proposals).
30.	Develop financial ratios related to profits, investments, and assets.
33.	Analyze cash flow.
34.	Makes decisions based on the balance sheet and income statement.
35.	Identify sources of funds and solicit funds for new projects.
36.	Authorize expenditures.
40.	Calculate and use break-even analysis information.
43.	know process for internal/external audits.
50.	Calculate turnover and absenteeism costs.

APPENDIX J

PERCENTAGE OF FOODSERVICE DIRECTORS/CHIEF DIETITIANS RATING FINANCIAL MANAGEMENT COMPETENCIES AS IMPORTANT OR VERY IMPORTANT FOR ENTRY-LEVEL AND ADVANCED-LEVEL DIETITIANS

Table J-1. Percentage of Foodservice Directors/Chief Dietitians[a] Rating Financial Management Competencies as Important or Very Important for Entry-Level Dietitians

	Competency	Percent ranked Important or Very Important[b]
21.	Develop and modify menus in relation to cost.	74.5
20.	Develop and cost standardized recipes.	67.1
23.	Maintain cost control through receiving, storage, inventory, and sanitation procedures.	66.1
4.	Know financial goals of the operation (profit, break even, subsidized).	58.9
22.	Price menu items in accordance with established pricing strategies.	56.9
2.	Define basic financial terms.	54.3
3.	Know purpose of financial reports.	53.6
42.	Develop plans to generate revenue.	53.5
38.	Establish and implement fees for service.	48.9
5.	Know basic accounting and financial management principles.	48.5
19.	Determine food, labor, and operating cost per unit of service.	48.0
47.	Determine appropriate use of part-time and over-time labor.	48.0
25.	Write purchase specifications and orders.	47.1
29.	Analyze cost/benefits programs and courses of action.	46.4
26.	Supervise cafeteria cash activities and reporting.	45.9
11.	Collect appropriate information for budget planning.	45.1
41.	Determine cost effectiveness of make vs. buy decisions.	44.6
45.	Determine labor hour requirements in relation to volume and budget per unit of service.	43.6
12.	Project units of service, cost, and revenue as basis for budgeting.	42.3
13.	Justify budget requirements, including purchasing of new equipment and renovation.	40.6
9.	Use mission statement, goals, objectives, and plans in developing budgets.	40.3
27.	Monitor procedures for billing, cash handling, and handling of non-cash income.	39.5
28.	Analyze financial impact of operational decisions.	39.4
24.	Utilize precost and precontrol systems for forecasting.	38.0
31.	Assess financial status based on approved budget.	37.1
46.	Recommend wage and salary adjustments for employees.	36.6

Table J-1 (Continued)

	Competency	Percent ranked Important or Very Important[b]
1.	Know reimbursement policies (such as DRGs, medicare, medicaid, private insurance.	36.2
37.	Establish financial objectives of department.	36.2
48.	Estimate personnel costs for a facility for budget and planning purposes.	35.8
18.	Monitor variance reports (budget to actual) and design a plan for corrective action.	35.5
16.	Use budget to establish cost control system.	35.2
32.	Assess financial status based on profit and loss statement.	32.8
39.	Develop plan for collection of fees and accounts.	31.9
36.	Authorize expenditures.	31.5
6.	Know how to prepare financial reports.	29.8
43.	Know process for internal/external audits.	29.8
35.	Identify sources of funds and solicit funds for new projects.	29.6
14.	Prepare budgets (operating budget, cash budget, and pro forma balance sheet).	29.2
7.	Use computer to generate financial information, budgets, reports.	28.4
17.	Justify requests(using methods such as return on investment, time value of money, payback period, profitability index) for external or internal funding (i.e. Capital budgets, research proposals).	28.3
40.	Calculate and use break-even analysis information.	27.6
34.	Makes decisions based on the balance sheet and income statement.	26.9
33.	Analyze cash flow.	26.6
50.	Calculate turnover and absenteeism costs.	26.0
15.	Prepare capital budgets.	23.8
49.	Know insurance, tax, and other personnel-related requirements.	22.4
10.	Know appropriate application of different budgeting systems.	21.7
44.	Calculate contribution margin.	18.7
30.	Develop financial ratios related to profits, investments, and assets.	16.0
8.	Know depreciation methods and their application.	15.2

[a]n=485
[b]A five-point rating scale was used; 0 not important, 1 of little importance, 2 some importance, 3 important, and 4 very important.

Table J-2. Percentage of Foodservice Directors/Chief Dietitians[a] Rating Financial Management Competencies as Important or Very Important for Advanced-Level Dietitians

	Competency	Percent ranked Important or Very Important[b]
4.	Know financial goals of the operation (profit, break even, subsidized).	96.7
3.	Know purpose of financial reports.	96.2
16.	Use budget to establish cost control system.	96.2
42.	Develop plans to generate revenue.	95.2
38.	Establish and implement fees for service.	95.1
47.	Determine appropriate use of part-time and over-time labor.	95.0
29.	Analyze cost/benefits programs and courses of action.	94.9
13.	Justify budget requirements, including purchasing of new equipment and renovation.	94.4
19.	Determine food, labor, and operating cost per unit of service.	94.3
12.	Project units of service, cost, and revenue as basis for budgeting.	94.2
37.	Establish financial objectives of department.	93.7
21.	Develop and modify menus in relation to cost.	93.6
23.	Maintain cost control through receiving, storage, inventory, and sanitation procedures.	93.3
18.	Monitor variance reports (budget to actual) and design a plan for corrective action.	92.9
45.	Determine labor hour requirements in relation to volume and budget per unit of service.	92.7
11.	Collect appropriate information for budget planning.	92.4
28.	Analyze financial impact of operational decisions.	92.2
2.	Define basic financial terms.	91.6
22.	Price menu items in accordance with established pricing strategies.	91.6
46.	Recommend wage and salary adjustments for employees.	91.6
41.	Determine cost effectiveness of make vs. buy decisions.	91.4
9.	Use mission statement, goals, objectives, and plans in developing budgets.	91.1
20.	Develop and cost standardized recipes.	91.1
14.	Prepare budgets (operating budget, cash budget, and pro forma balance sheet).	91.0
36.	Authorize expenditures.	90.8
48.	Estimate personnel costs for a facility for budget and planning purposes.	90.1

Table J-2 (Continued)

	Competency	Percent ranked Important or Very Important[b]
5.	Know basic accounting and financial management principles.	89.9
31.	Assess financial status based on approved budget.	89.1
25.	Write purchase specifications and orders.	88.6
15.	Prepare capital budgets.	88.1
1.	Know reimbursement policies (such as DRGs, medicare, medicaid, private insurance.	87.8
6.	Know how to prepare financial reports.	86.2
17.	Justify requests(using methods such as return on investment, time value of money, payback period, profitability index) for external or internal funding (i.e. Capital budgets, research proposals).	86.2
32.	Assess financial status based on profit and loss statement.	85.1
27.	Monitor procedures for billing, cash handling, and handling of non-cash income.	84.7
34.	Makes decisions based on the balance sheet and income statement.	83.9
50.	Calculate turnover and absenteeism costs.	83.3
24.	Utilize precost and precontrol systems for forecasting.	83.0
26.	Supervise cafeteria cash activities and reporting.	81.7
40.	Calculate and use break-even analysis information.	81.4
43.	Know process for internal/external audits.	80.5
35.	Identify sources of funds and solicit funds for new projects.	80.1
7.	Use computer to generate financial information, budgets, reports.	79.0
39.	Develop plan for collection of fees and accounts.	78.1
33.	Analyze cash flow.	77.9
10.	Know appropriate application of different budgeting systems.	77.2
49.	Know insurance, tax, and other personnel-related requirements.	69.0
30.	Develop financial ratios related to profits, investments, and assets.	68.3
44.	Calculate contribution margin.	65.5
8.	Know depreciation methods and their application.	57.6

[a]n=485
[b]A five-point rating scale was used; 0 not important, 1 of little importance, 2 some importance, 3 important, and 4 very important.

APPENDIX K

FREQUENCY DISTRIBUTION OF FOODSERVICE DIRECTORS'/CHIEF DIETITIANS' PERCEIVED IMPORTANCE RATINGS OF FINANCIAL MANAGEMENT COMPETENCIES FOR ENTRY-LEVEL AND ADVANCED-LEVEL DIETITIANS

Table K-1. Frequency Distribution of Foodservice Directors'/Chief Dietitians'* Perceived Importance Ratings of Financial Management Competencies for Entry-Level Dietitians

Entry-Level Competencies	Importance To Job				
	Not Impt	OfLit Impt	Some Impt	Impt	Very Impt
	<----------%---------->				
1. Know reimbursement policies (such as DRGs, medicare, medicaid, private insurance.	5.6	12.3	45.8	25.7	10.5
2. Define basic financial terms.	1.7	10.0	34.1	38.3	16.0
3. Know purpose of financial reports.	1.5	10.2	34.8	37.3	16.3
4. Know financial goals of the operation (profit, break even, subsidized).	2.3	8.3	30.5	37.3	21.6
5. Know basic accounting and financial management principles.	1.9	12.3	37.4	33.7	14.8
6. Know how to prepare financial reports.	7.7	21.3	41.1	22.1	7.7
7. Use computer to generate financial information, budgets, reports.	8.1	22.4	41.1	19.5	8.9
8. Know depreciation methods and their application.	19.2	29.9	35.7	12.5	2.7
9. Use mission statement, goals, objectives, and plans in developing budgets.	6.9	19.2	33.5	30.3	10.0
10. Know appropriate application of different budgeting systems.	11.2	22.3	44.8	17.1	4.6
11. Collect appropriate information for budget planning.	4.8	15.4	34.7	33.9	11.2
12. Project units of service, cost, and revenue as basis for budgeting.	5.6	17.2	34.9	31.6	10.7
13. Justify budget requirements, including purchasing of new equipment and renovation.	6.9	14.1	38.5	28.7	11.9
14. Prepare budgets (operating budget, cash budget, and pro forma balance sheet).	10.2	20.9	39.7	21.3	7.9
15. Prepare capital budgets.	14.4	23.6	38.2	17.3	6.5
16. Use budget to establish cost control system.	6.1	19.9	38.8	27.0	8.2
17. Justify requests(using methods such as return on investment, time value of money, payback period, profitability index) for external or internal funding (i.e. Capital budgets, research proposals).	9.9	22.9	39.0	22.6	5.7
18. Monitor variance reports (budget to actual) and design a plan for corrective action.	8.2	18.4	37.8	26.2	9.3
19. Determine food, labor, and operating cost per unit of service.	3.5	14.0	34.4	32.8	15.2
20. Develop and cost standardized recipes.	1.5	5.2	26.3	41.5	25.6
21. Develop and modify menus in relation to cost.	0.6	4.4	20.5	45.9	28.6
22. Price menu items in accordance with established pricing strategies.	2.5	10.2	30.4	39.5	17.4
23. Maintain cost control through receiving, storage, inventory, and sanitation procedures.	2.1	8.6	23.1	40.5	25.6

Table K-1 (Continued)

Entry-Level Competencies	Importance To Job				
	Not Impt	OfLit Impt	Some Impt	Impt	Very Impt
	<----------%---------->				
24. Utilize precost and precontrol systems for forecasting.	5.9	14.8	41.4	30.8	7.2
25. Write purchase specifications and orders.	4.8	14.0	34.2	35.2	11.9
26. Supervise cafeteria cash activities and reporting.	8.4	13.2	32.6	29.4	16.5
27. Monitor procedures for billing, cash handling, and handling of non-cash income.	8.4	15.5	36.6	26.9	12.6
28. Analyze financial impact of operational decisions.	6.9	14.5	39.2	31.4	8.0
29. Analyze cost/benefits programs and courses of action.	5.0	11.5	37.2	37.8	8.6
30. Develop financial ratios related to profits, investments, and assets.	16.8	26.9	40.3	13.7	2.3
31. Assess financial status based on approved budget.	8.1	17.9	36.9	30.0	7.1
32. Assess financial status based on profit and loss statement.	10.2	18.0	39.0	26.3	6.5
33. Analyze cash flow.	12.8	20.3	40.4	20.7	5.9
34. Makes decisions based on the balance sheet and income statement.	10.5	20.7	41.8	21.3	5.6
35. Identify sources of funds and solicit funds for new projects.	10.2	21.9	38.3	24.2	5.4
36. Authorize expenditures.	12.9	21.7	34.0	24.0	7.5
37. Establish financial objectives of department.	9.1	17.5	37.2	28.8	7.4
38. Establish and implement fees for service.	5.2	10.2	35.7	35.3	13.6
39. Develop plan for collection of fees and accounts.	12.1	19.4	36.7	23.1	8.8
40. Calculate and use break-even analysis information.	10.5	20.8	41.2	22.1	5.5
41. Determine cost effectiveness of make vs. buy decisions.	6.3	14.0	35.2	32.1	12.5
42. Develop plans to generate revenue.	3.5	11.0	32.0	36.9	16.6
43. Know process for internal/external audits.	9.8	21.3	39.0	22.3	7.5
44. Calculate contribution margin.	16.4	25.7	39.1	16.4	2.3
45. Determine labor hour requirements in relation to volume and budget per unit of service.	8.0	13.8	34.6	32.5	11.1
46. Recommend wage and salary adjustments for employees.	10.4	20.4	32.6	26.0	10.6
47. Determine appropriate use of part-time and over-time labor.	5.6	14.6	31.8	31.4	16.6
48. Estimate personnel costs for a facility for budget and planning purposes.	9.2	18.8	36.2	24.9	10.9
49. Know insurance, tax, and other personnel-related requirements.	13.8	24.5	39.3	16.3	6.1
50. Calculate turnover and absenteeism costs.	10.0	21.0	42.9	18.3	7.7

*n=485

Table K-2. Frequency Distribution of Foodservice Directors'/Chief Dietitians'* Perceived Importance Ratings of Financial Management Competencies for Advanced-Level Dietitians

Advanced-Level Competencies	Importance To Job				
	Not Impt	OfLit Impt	Some Impt	Impt	Very Impt
	<----------%---------->				
1. Know reimbursement policies (such as DRGs, medicare, medicaid, private insurance.	0.8	1.5	9.9	33.3	54.5
2. Define basic financial terms.	0.2	0.4	7.8	27.7	63.9
3. Know purpose of financial reports.	---	0.8	2.9	24.3	71.9
4. Know financial goals of the operation (profit, break even, subsidized).	---	0.4	2.9	18.7	78.0
5. Know basic accounting and financial management principles.	---	0.8	9.2	28.3	61.6
6. Know how to prepare financial reports.	0.2	2.7	10.9	26.5	59.7
7. Use computer to generate financial information, budgets, reports.	1.5	2.1	17.5	35.6	43.4
8. Know depreciation methods and their application.	3.2	8.6	30.6	31.2	26.4
9. Use mission statement, goals, objectives, and plans in developing budgets.	0.8	1.1	6.9	28.8	62.3
10. Know appropriate application of different budgeting systems.	1.7	2.1	19.0	39.0	38.2
11. Collect appropriate information for budget planning.	0.6	0.6	6.3	26.1	66.3
12. Project units of service, cost, and revenue as basis for budgeting.	0.6	0.8	4.4	26.1	68.1
13. Justify budget requirements, including purchasing of new equipment and renovation.	0.4	0.8	4.4	17.2	77.2
14. Prepare budgets (operating budget, cash budget, and pro forma balance sheet).	1.1	1.5	6.5	23.2	67.8
15. Prepare capital budgets.	1.9	1.7	8.4	26.6	61.5
16. Use budget to establish cost control system.	0.2	0.8	2.8	28.4	67.8
17. Justify requests(using methods such as return on investment, time value of money, payback period, profitability index) for external or internal funding (i.e. Capital budgets, research proposals).	0.8	3.1	9.9	29.8	56.4
18. Monitor variance reports (budget to actual) and design a plan for corrective action.	0.4	1.5	5.1	24.5	68.4
19. Determine food, labor, and operating cost per unit of service.	0.4	1.1	4.2	20.2	74.1
20. Develop and cost standardized recipes.	---	0.4	8.4	24.9	66.2
21. Develop and modify menus in relation to cost.	---	0.2	6.1	22.7	70.9
22. Price menu items in accordance with established pricing strategies.	0.2	1.7	6.4	29.6	62.0
23. Maintain cost control through receiving, storage, inventory, and sanitation procedures.	0.4	1.1	5.3	22.4	70.9

Table K-2 (Continued)

Advanced-Level Competencies	Importance To Job				
	Not Impt	OfLit Impt	Some Impt	Impt	Very Impt
	<----------%				---------->
24. Utilize precost and precontrol systems for forecasting.	1.1	1.7	14.2	35.7	47.3
25. Write purchase specifications and orders.	0.2	1.7	9.5	35.4	53.2
26. Supervise cafeteria cash activities and reporting.	1.9	3.6	12.7	33.5	48.2
27. Monitor procedures for billing, cash handling, and handling of non-cash income.	1.7	2.3	11.3	37.3	47.4
28. Analyze financial impact of operational decisions.	0.6	1.1	6.1	23.4	68.8
29. Analyze cost/benefits programs and courses of action.	---	1.1	4.0	28.0	66.9
30. Develop financial ratios related to profits, investments, and assets.	1.7	6.1	23.9	32.1	36.2
31. Assess financial status based on approved budget.	1.1	1.3	8.6	28.8	60.3
32. Assess financial status based on profit and loss statement.	1.3	1.9	11.8	28.4	56.7
33. Analyze cash flow.	1.7	2.5	17.8	30.7	47.2
34. Makes decisions based on the balance sheet and income statement.	1.5	3.0	11.6	34.0	49.9
35. Identify sources of funds and solicit funds for new projects.	1.5	4.2	14.3	30.2	49.9
36. Authorize expenditures.	1.5	1.7	6.1	26.0	64.8
37. Establish financial objectives of department.	0.8	0.8	4.6	21.3	72.4
38. Establish and implement fees for service.	0.4	0.8	3.6	24.2	70.9
39. Develop plan for collection of fees and accounts.	2.3	5.1	14.5	28.6	49.5
40. Calculate and use break-even analysis information.	1.3	2.5	14.8	34.7	46.7
41. Determine cost effectiveness of make vs. buy decisions.	0.4	1.3	6.9	31.2	60.2
42. Develop plans to generate revenue.	---	0.6	4.2	21.0	74.2
43. Know process for internal/external audits.	0.6	4.2	14.7	33.3	47.2
44. Calculate contribution margin.	3.4	7.3	23.7	30.4	35.1
45. Determine labor hour requirements in relation to volume and budget per unit of service.	0.2	1.3	5.9	23.2	69.5
46. Recommend wage and salary adjustments for employees.	0.6	1.7	6.1	23.3	68.3
47. Determine appropriate use of part-time and over-time labor.	0.4	0.6	4.0	20.8	74.2
48. Estimate personnel costs for a facility for budget and planning purposes.	1.3	2.1	6.5	22.9	67.2
49. Know insurance, tax, and other personnel-related requirements.	2.3	6.1	22.5	30.1	38.9
50. Calculate turnover and absenteeism costs.	1.7	2.3	12.8	33.5	49.8

*n=485

VITA

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In the fall of 1989 she began study toward a Master of Science degree in Food Systems Administration at the University of Tennessee. During the 1989-90 academic year she worked as a teaching assistant for the Nutrition and Food Science Quantity Foods Laboratory. The following year she worked as an administrative graduate assistant for the University of Tennessee Food Services Department. A Master of Science degree was awarded in May 1991.

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