

Identification of the Competencies, Knowledge, and Skills Needed by School Nutrition Assistants in the Current Environment

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Please note that this study was published before the implementation of Healthy, Hunger-Free Kids Act of 2010, which went into effect during the 2012-13 school year, and its provision for Smart Snacks Nutrition Standards for Competitive Food in Schools, implemented during the 2014-15 school year. As such, certain research may not be relevant today.

ABSTRACT

Purpose/Objectives

Study objectives were to identify the functional areas, competencies, knowledge, and skills needed by effective school nutrition (SN) assistants in the current SN environment, and determine at what point the SN assistant should be able to know/perform the knowledge/skill statement, at time of hire or after training.

Methods

In Phase I, an expert panel of state agency staff, SN directors, and SN managers identified functional areas for job duties performed by SN assistants using a modified Delphi technique. The expert panel also agreed upon the knowledge and skill statements needed in each functional area. Researchers categorized the knowledge and skill statements for each functional area and drafted competency statements. The Phase II review panel was mailed a survey to verify whether the knowledge and skill statements are important to job responsibilities of SN assistants, determine at what point SN assistants should be able to know or perform the knowledge or skill statement, and confirm whether the competency statements are consistent with the supporting knowledge and skill statements.

Results

Six functional areas were identified that encompass the job duties of the SN assistant: food production; sanitation, safety, and security; customer service; program regulations and accountability; equipment use and care; and professional excellence. In addition, 12 competencies, 45 knowledge statements, and 105 skill statements were confirmed by the Phase II review panel. Thirty-seven statements were identified as being necessary when SN assistants are hired.

Applications to Child Nutrition Professionals

SN administrators can use the knowledge and skill statements in preparing job descriptions for SN assistants. Although job requirements for SN assistants may differ, these findings provide needed information for defining the role of an effective SN assistant.

INTRODUCTION

State agencies and local school districts have been faced with the task of training site-level school nutrition personnel since before the passage of the National School Lunch Act (Martin, 1999). Early leaders in school nutrition recognized the benefits of establishing standards for personnel as well as developing training programs for the various levels of school nutrition personnel. The Nutrition

Education and Training Program (NET), authorized in 1977, provided federal funds to states to meet specific needs based on each state's assessment.

Several states used the NET funds to initiate research-based training programs for school nutrition employees (Bowen, Vaden, Newell, & Dayton, 1982; McProud, Tseng, Dutcher, & Roefs, 1983). Bowen et al. (1982) concluded that school nutrition personnel could influence children's knowledge about foods and encourage good food habits and attitudes; however, many did not have adequate training in nutrition education to achieve these goals. They stressed that a well-trained school nutrition staff was crucial to the increased acceptance of school nutrition programs and their findings indicated the need to increase the emphasis on training personnel. McProud et al. (1983) developed training modules on food preparation and cultural aspects of food that focused on the basic competencies for a school nutrition assistant position. In this study, school nutrition directors identified nine overall competencies and 41 competency indicators that served as the backbone of the course content and were reinforced throughout the training modules. The researchers concluded that a series of training modules that reemphasized major competencies throughout the program could be a successful technique for teaching knowledge of basic skills to school nutrition assistants.

Canter (1988) also utilized competencies in the development of a statewide competency-based education plan for school nutrition personnel in Kansas. The researcher defined competency as the minimum knowledge, skills, affective behavior, and judgment that an individual is certified to possess on a set of criteria and level of expectation. A panel of experts identified the competencies necessary for success for a school nutrition assistant, manager, supervisor, and director. The panel identified 14 general areas and developed competencies based on the job classification of the employee. Canter concluded that training for school nutrition assistants should focus on basics such as food production, sanitation, safety, menu planning, delivery of service, and communication skills.

DeMicco, Palakurthi, Sammons, and Williams (1994) emphasized that the foundation for a successful school nutrition program should be based on the knowledge, skills, and abilities of its employees. To aid in design of a statewide education plan, school nutrition directors were asked to evaluate each of 130 job tasks by position (director, manager, and assistant) for training needs and importance of the task. The researchers concluded that training for the school nutrition assistant should focus on the functional areas of food production, personnel functions, and service.

The focus of the present study was on the school nutrition assistant who works at the local school cafeteria under the direction of a school nutrition manager. The objectives were to identify the functional areas, competencies, knowledge, and skills needed by effective school nutrition assistants in the current school nutrition environment and to determine at what point the school nutrition assistant should be able to know/perform the knowledge/skill statement, at time of hire or after training.

METHODOLOGY

Study Sample and Procedures

Phase I of this two-phase research project utilized an expert panel consisting of 12 state agency personnel, school nutrition (SN) directors, and SN managers to bring about agreement on functional areas for job duties performed by SN assistants. A modified Delphi technique consisting of four rounds was used to accomplish this effort. Each Delphi round was conducted by email with an attached questionnaire and cover letter sent to each participant. Expert panel members were asked to complete the questionnaire, and return it by email as an attachment. At the end of each round, responses were summarized and incorporated into the subsequent round questionnaire.

The round 1 questionnaire consisted of demographic and open-ended questions that asked expert panel members to list the functional areas that summarize all the daily job duties performed by SN assistants and to provide a brief description or definition for each functional area listed. In order to

frame the assignment and ensure that panel members were consistent in their interpretation, definitions of terms were provided (Figure 1).

Figure 1. Definition of terms.

- **School nutrition assistants** are the foodservice employees who work at the local school cafeteria under the direction of a school nutrition manager.
- **Functional areas** are the broad groupings or categories of similar tasks that reflect job duties performed by technicians/assistants within the local school nutrition operation. These categories serve as an umbrella for all tasks that are listed on a work schedule or are done on a daily, weekly, or seasonal basis within the school year.
- **Competencies** are underlying characteristics within each functional area that lead to successful performance. They may include knowledge and skills as well as various levels of motivation.
- **Knowledge** is the information a person has in specific content areas that is necessary for successful performance in a competency area.
- **Skills** are the abilities to perform certain physical and/or mental tasks that are necessary for successful performance in a competency area.

In round 2, panel members were instructed to rate their agreement with each functional area using a 4-point scale, ranging from 1 (strongly disagree) to 4 (strongly agree). Comments could also be added to their responses regarding appropriate categorization, re-wording, or suggestions for new functional areas.

The round 3 questionnaire listed functional areas in descending order based on round 2 results to which researchers made a recommendation to “keep” or “delete” the functional area based on a level of 75% agreement of expert panel members. Panel members were asked to indicate if they agreed with the recommendation and if they did not, to describe the reason. Suggestions for wording of functional areas were listed and panel members were asked to indicate their preference. Responses were summarized and emailed to panel members prior to a two-day work group session scheduled for the development of knowledge and skill statements compatible with each defined functional area.

In preparation for the two-day work group session, a total of 55 different SN assistant job descriptions from 25 school districts were collected from school district websites and other sources. Job descriptions were reviewed, analyzed, and sorted into similar themes. Based on this analysis, 80 knowledge statements and 179 skill statements were drafted for a pre-meeting document. Eleven expert panel members attended the work group session where they engaged in small sub-group panel discussions and consensus building activities to arrive at agreement on the categorization and wording of knowledge and skill statements pertinent to the functional areas previously identified in the three Delphi rounds.

The final round of the Delphi was to confirm the wording and categorization of the knowledge and skill statements from the work group session into the appropriate functional areas and identify whether the SN assistant should be able to know or perform the knowledge or skill statement at time of hire or after training. A threshold of 75% agreement was used to determine whether the knowledge or skill statement was retained, resulting in a total of 45 knowledge statements and 105 skill statements within six functional areas. After summarizing the Round 4 results, the knowledge and skill statements for each functional area were grouped into smaller categories and drafted into 12 competency statements, using previous competency research as a guide (Cater and Carr, 2004).

A review panel consisting of 38 SN professionals (state agency staff, district-level SN professionals and school site managers) representing 19 states in the seven USDA regions was constructed for Phase II of the research project. The panel evaluated the 45 knowledge statements, 105 skill statements, and 12 competency statements within the six functional areas identified in Phase I. Review panel participants were asked to indicate the importance of each knowledge and skill

statement to the job responsibilities of a SN assistant using a 4-point scale, ranging from 1 (not important) to 4 (extremely important). Participants also were asked to indicate when the SN assistant should be able to know or perform each knowledge or skill statement by selecting either “when hired” or “after training.” After completing each section of knowledge and skill statements, participants also evaluated the competency statements. Using a 4-point scale ranging from 1 (strongly disagree) to 4 (strongly agree), review panel participants indicated their agreement with two statements – “the competency statement adequately encompasses the knowledge and skill statement under the related job functional area” and “the competency statement is stated clearly and accurately.” In the last section of the survey, review panel members were asked to provide information about themselves and their school district.

This study was approved by The University of Southern Mississippi Human Subjects Committee of the Institutional Review Board.

Data Analysis

The review panel surveys were analyzed using the statistical package SPSS Version 13.0 for Windows. Descriptive statistics included means, standard deviations, and frequencies of total responses.

RESULTS AND DISCUSSION

Phase I

Of the 12 SN professionals invited to participate in the expert panel, 12 participated in the modified Delphi rounds 1, 2, and 3 (100% response rate). Eleven SN professionals attended the work group session (92% attendance) and 10 panel members completed round 4 (83% response rate). Two-thirds (66.7%) have worked in SN programs for greater than ten years and over half (58.4%) of the panel members had a baccalaureate degree or higher. When asked about their certification or credentialed status, 58.3% of panel members indicated that they were SNA certified, 33.3% were SNS credentialed, and 25% were Registered Dietitians.

The expert panel members generated a list of 12 functional areas during round 1 that they perceived to describe the job tasks or duties performed by SN assistants. In round 2, panel members reviewed whether the 12 functional areas were appropriately categorized according to SN assistants’ job tasks or duties. Seventy-five percent or greater of the panel members indicated that the following functional areas were appropriately categorized: food production (100%), equipment use and care (92%), sanitation, safety, and security (92%) professional development (83%), customer service (75%), interpersonal skills (75%), and program regulations and accountability (75%). Panel members indicated that the five areas receiving less than 75% agreement could be combined with other functional areas.

When asked to indicate their agreement with round 2 recommendations, 75% or greater of the panel members agreed with the round 2 recommendations of keeping the following functional areas: food production (100%), customer service (100%), equipment use and care (100%), sanitation, safety, and security (100%), interpersonal skills (92%), program regulations and accountability (92%), and professional development (83%). Panel members also indicated their choice for wording of the functional areas. A simple majority was used in determining the name of each functional area. Fifty-one percent or greater of panel members agreed on the name for the following six functional areas: equipment use and care (100%), professional development (67%), interpersonal skills (67%), customer service (58%), sanitation, safety, and security (58%), and program regulations and accountability (58%).

During the work group session, consensus among the expert panel members was attained on the naming of the seventh functional area. Panel members agreed that “food production” was the appropriate designation for this area. The round 4 questionnaire consisted of 47 knowledge statements, 108 skill statements, and six statements tabled from the work group session. After tabulating the results of round 4, 45 knowledge statements and 105 skill statements remained.

As the expert panel members responded to the round 4 questionnaire, researchers were concerned that the interpretation of the title of one functional area, “interpersonal skills”, had continued to be problematic throughout the work group session and round 4. In addition, another functional area, professional development, contained only five knowledge and skill statements. It was therefore recommended that the two functional areas should be combined into one and re-named as professional excellence, resulting in six functional areas for SN assistants. The final wording for the six functional areas was: food production; sanitation, safety, and security; customer service; program regulations and accountability; equipment use and care; and professional excellence.

Phase II

Of the 38 SN professionals invited to participate in the review panel, 34 (89%) returned the Phase II survey. Twenty-five review panel members also returned the demographic information section of the survey. Thirty-six percent of the SN professionals described their job title as SN director, 24% as SN manager, and 20% as state agency staff. Sixty percent have worked in SN programs for more than 15 years and almost two-thirds (64%) had a baccalaureate degree or higher. When asked about their certification or credentialed status, 40% of the responding SN professionals were SNA certified, 40% were State Department of Education certified, 20% were SNS credentialed, and another 20% were not certified.

Knowledge and skill statements with a score of 2.5 or higher on a 4-point scale indicated review panel respondents considered the statement important in today’s work environment, whereas a score of less than 2.5 indicated a level of disagreement as to the importance of the statement. All of the statements in the six functional areas had mean importance ratings of 2.5 or greater, so no knowledge and skill statements were eliminated.

Functional Areas

Food production

The food production functional area contains two competency statements, nine knowledge statements, and 20 skill statements. The statements with the highest mean ratings were: “follows standards for holding and serving food to maintain nutritive value and food quality” (3.6 + 0.6), “follows instructions in using appropriate portion control tools to serve menu items” (3.6 + 0.6), “knows units of measurement (pound, cup, etc.) used in food production” (3.6 + 0.5), and “assists with all phases of food preparation in the kitchen in a timely, safe, and sanitary manner” (3.6 + 0.7).

Sanitation, safety, and security

The sanitation, safety, and security functional area contains two competency statements, 12 knowledge statements, and 21 skill statements. The statements with the highest mean ratings were: “practices correct sanitation procedures and uses appropriate chemicals when using and sanitizing equipment and cleaning the facility” (3.8 + 0.5); “follows rules of time and temperatures relationships for food handling and preparations and reports deviations, as appropriate” (3.7 + 0.5); “serves menu items in accordance to health and sanitation requirements” (3.7 + 0.5), “follows health and sanitation requirements when preparing and serving food” (3.7 + 0.5); “knows the importance and basic procedures to prevent foodborne illness and infection during food handling and production” (3.7 + 0.5); “knows the importance of practicing safe food handling” (3.7 + 0.5); and “knows the importance of time and temperature relationships (temperature danger zone) for food handling and preparation” (3.7 + 0.5).

Customer service

The customer service functional area contains one competency statement, four knowledge statements, and nine skill statements. The statements with the highest mean ratings were: “provides positive, professional, and friendly service” (3.8 + 0.4); “uses a caring approach when interacting with students” (3.8 + 0.4); “knows the importance of teamwork and cooperation with nutrition and school staff” (3.6 + 0.6); and “encourages students to make healthy menu choices” (3.5 + 0.7).

Program regulations and accountability

The program regulations and accountability functional area contains three competency statements, nine knowledge statements, and 13 skill statements. Based on review panel comments, researchers modified the wording for one skill statement to “assists with maintaining SN vending machines, as appropriate.” This revised wording replaced the original skill statement in the final version of the knowledge and skill statements. Statements with the highest mean importance ratings were:

“maintains confidentiality of students receiving free or reduced price meals” (3.9 + 0.3); “knows the importance of preserving confidentiality of students receiving free and reduced price meals” (3.9 + 0.4); and “follows the collection and recording procedures approved for point of service at the school” (3.8 + 0.4).

Equipment use and care

The equipment use and care functional area contains one competency statement, three knowledge statements, and eight skill statements. The statements with the highest mean ratings were: “follows sanitation procedures when using and cleaning foodservice equipment” (3.7 + 0.5) and “demonstrates ability to safely operate foodservice equipment” (3.6 + 0.6).

Professional excellence

The professional excellence functional area contains three competency statements, eight knowledge statements, and 34 skill statements. The statements with the highest importance mean ratings were: “demonstrates ability to meet work schedules and time lines” (3.7 + 0.5); “follows instructions of unit manager relating to safety measures, sanitation practices, personal standards, work techniques, and methods of performing duties” (3.7 + 0.5); “demonstrates ability to add, subtract, multiply, and divide accurately” (3.7 + 0.5); “uses a professional manner when interacting with co-workers, school staff, students, and others” (3.7 + 0.5); and “works with a varied population in a meaningful, respectful, and appropriate manner” (3.7 + 0.5).

Competency Statements

A mean score of 2.5 or higher for each evaluation statement indicated that the panel members agreed that the competency adequately covered the knowledge and skill statements and the competency statement was worded clearly and accurately. The means and standard deviations for the evaluation of the competency statements in the six functional areas are listed in Table 1. All competency statements had mean ratings of 3.0 or greater for the evaluation statements indicating that the review panel agreed that the competencies adequately encompassed the knowledge and skill under each functional area and were clearly and accurately stated.

Table 1. Mean Agreement Ratings and Standard Deviations for Competency Statements

Functional Area Competency Statement	Statement adequately encompasses the knowledge and skills under the related functional area			Statement is stated clearly and accurately		
	N	Mean ^a	SD	N	Mean ^a	SD
<i>Food Production</i>						
1.1 Maintains high standards of control for quality food production and service.	30	3.2	0.6	30	3.2	0.6
1.2 Follows operational procedures for efficient and effective food production and service.	34	3.2	0.5	34	3.3	0.5
<i>Sanitation, Safety, and Security</i>						
2.1 Maintains an environment conducive to protecting the health and well-being of the school’s children through high levels of food safety and sanitation standards.	33	3.4	0.5	33	3.5	0.5

2.2 Maintains a safe facility for performance of work.	34	3.2	0.5	34	3.3	0.5
Customer Service						
3.1 Maintains quality standards for the presentation and service of food in a pleasant environment.	33	3.4	0.5	34	3.4	0.6
Program Regulations and Accountability						
4.1 Maintains integrity and accountability of the School Nutrition Program (SNP) through compliance with all federal, state, and local regulations.	32	3.3	0.5	33	3.3	0.5
4.2 Maintains accountability of recorded documentation for compliance with federal, state, and local regulations.	34	3.3	0.4	34	3.3	0.5
4.3 Assures compliance with school/district policies and procedures.	32	3.3	0.5	32	3.3	0.5
Equipment Use and Care						
5.1 Implements administrative policies for proper use and care of all equipment.	34	3.2	0.5	34	3.2	0.5
Professional Excellence						
6.1 Performs all duties and responsibilities in an ethical and professional manner.	33	3.4	0.5	33	3.3	0.6
6.2 Communicates effectively with unit manager and other employees.	32	3.4	0.5	32	3.4	0.5
6.3 Provides leadership as a team member of the school community.	33	3.4	0.6	33	3.4	0.6

^aScale = 1, strongly disagree, to 4, strongly agree

Knowledge and Skill Statements When Hired

A simple majority rule was used as the basis for determining at what point the SN assistants needed to be able to know or perform each statement. As shown in Table 2, review panel members identified 37 knowledge and skill statements needed when SN assistants were hired. Examples of these statements include: “knows basic math related to quantity food preparation and service”

(84.8%); “maintains standards of personal appearance and hygiene according to district/department policies and procedures” (62.1%); “knows the importance of teamwork and cooperation with nutrition and school staff” (75.8%); “demonstrates willingness to help out when emergencies arise” (78.8%). All other knowledge and skill statements were identified by review panel members as needed by SN assistants after training.

Table 2. Knowledge and Skill Statements Needed by SN Assistants When Hired

<i>Functional Area</i>
Competency Statement
<ul style="list-style-type: none"> • Knowledge/Skill Statement
<i>Food Production</i>
1.2 Follows operational procedures for efficient and effective food production and service.
<ul style="list-style-type: none"> • Knows units of measurement (pound, cup, etc.) used in food production. • Knows basic math related to quantity food preparation and service.
<i>Sanitation, Safety and Security</i>
2.1 Maintains an environment conducive to protecting the health and well-being of the school’s children through high levels of food safety and sanitation standards.
<ul style="list-style-type: none"> • Knows importance of practicing safe food handling. • Knows established rules for personal hygiene and grooming, including dress, appearance, and personal habits. • Maintains standards of personal appearance and hygiene according to district/department policies and procedures.
<i>Customer Service</i>
3.1 Maintains quality standards for the presentation and service of food in a pleasant environment.
<ul style="list-style-type: none"> • Knows the importance of teamwork and cooperation with nutrition and school staff. • Provides positive, professional, and friendly service. • Uses a caring approach when interacting with students.
<i>Professional Excellence</i>
6.1. Performs all duties and responsibilities in an ethical and professional manner.
<ul style="list-style-type: none"> • Knows importance of ongoing training to improvement of job skills. • Demonstrates ability to meet work schedules and time lines. • Demonstrates ability to add, subtract, multiply, and divide accurately. • Demonstrates willingness to be flexible. • Uses school/district resources (time, supplies, services, technology, etc.) in an ethical manner. • Demonstrates ability to interpret detailed written instructions, such as schedules and recipes.

6.2 Communicates effectively with unit manager and other employees.

- Knows the importance of helping inexperienced employees.
- Knows importance of giving and receiving constructive criticism.
- Knows methods of effective communication skills.
- Demonstrates ability to follow oral and written directions.
- Listens effectively to school nutrition manager and other staff.
- Responds appropriately to supervision and constructive criticism.
- Informs manager of potential problems or unusual events, as appropriate.

6.3 Provides leadership as a team member of the school community.

- Knows the importance of having a positive attitude and creating a positive image for school nutrition.
- Knows importance of working with a diverse school community.
- Uses a professional manner when interacting with co-workers, school staff, students, and others.
- Works with a varied population in a meaningful, respectful, and appropriate manner.

6.2 Communicates effectively with unit manager and other employees.

- Demonstrates ability to work with a varied population in a meaningful, respectful, and appropriate manner.

CONCLUSIONS AND APPLICATIONS

This research project identified the functional areas, competencies, knowledge, and skills needed by SN assistants to be effective on the job. Two panels comprised of SN managers, SN directors/supervisors, and state agency personnel participated in developing and confirming the six functional areas, 12 competencies, 45 knowledge statements, and 105 skill statements. The review panel considered all of the knowledge and skill statements to be important in today's school nutrition environment.

This is the first study to enumerate the knowledge and skills that SN assistants need at the time of hire and after training. The review panel identified 37 knowledge and skill statements that are needed by SN assistants when they are hired. Twenty-nine of these statements were from the professional excellence functional area. The remaining eight statements were from the food production, sanitation, safety, and security, and customer service functional areas. There were no knowledge and skill statements from the program regulations and accountability and equipment use and care functional areas identified as needed by SN assistants at time of hire. These findings suggest that the review panel was comfortable with the fact that training must occur after hire and that it is unrealistic to expect to hire an individual to be fully competent in all aspects of the job when hired. Meyer (1999) confirmed that the employee selection process is a challenge because both technical and interpersonal skills are needed in the foodservice industry. Results of Meyer's study indicated that some SN professionals believe that the emphasis during the interview process should be placed on assessing the potential employee's interpersonal skills as employees can be trained for the technical skills once they are hired. Wakou, Keim, and Williams (2003) quantified job competencies for Expanded Food and Nutrition Education Program (EFNEP) paraprofessionals prior to hire. They recommended that the list of competencies and attributes serve as a preliminary list to aid in hiring decisions. The list of knowledge and skill statements needed at time of hire identified in this study can be used by SN professionals to develop interview questions and pre-hiring questionnaires to assist their assessment of applicants.

The findings of this research will assist USDA, state agencies, and training professionals in developing appropriate resources for professional development opportunities of school nutrition assistants. These results can provide the structure for the development of competency-based training modules that focus on the six functional areas. SN professionals can use the knowledge and skill statements identified as needed after training to guide the development of initial training for new SN assistants and later in-service training. As previous research has emphasized (Bowen et al., 1982, DeMicco et al., 1994), developing a well-trained SN staff is critical to operating a successful SN program and the foundation for a successful SN program should be based on the knowledge, skills, and abilities of the staff.

School nutrition administrators can use the knowledge and skill statements in preparing job descriptions for school nutrition assistants. The findings of this project can also serve as the foundation for establishing personnel standards as well as the development of a competency-based performance appraisal instrument for SN assistants. Although job requirements for a school nutrition assistant may differ from state to state and sometimes from school district to school district, the findings from this research project provide needed information for defining the role of an effective school nutrition assistant.

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REFERENCES

- Bowen, D. L., Vaden, A. G., Newell, G. K., & Dayton, A. D. (1982). Nutrition-related training, knowledge, attitudes, and practices of Kansas school food service personnel. *School Food Service Research Review, 6* (2), 102-108.
- Canter, D. D. (1988). Identification of competencies of school food service workers in Kansas as the basis for a statewide educational plan. *School Food Service Research Review, 12*(2), 78-83.
- Cater, J. B., & Carr, D. H. (2004). *Competencies, knowledge, and skills of effective school nutrition managers*. (R-66-03). University, MS: National Food Service Management Institute.
- DeMicco, F. J., Palakurthi, R. R., Sammons, G., & Williams, J. A. (1994). Nutrition education and food service management training needs of school food service professionals. *School Food Service Research Review, 18*(2), 80-88
- Martin, J. (1999). History of child nutrition programs. In J. Martin & M. T. Conklin (Eds.), *Managing child nutrition programs: Leadership for excellence* (pp. 29-85). Gaithersburg, MD: Aspen Publishers, Inc.
- McProud, L. M., Tseng, R. Y., Dutcher, J. K., & Roefs, V. (1983). Training program for entry-level employees in school food service. *School Food Service Research Review, 7*(2), 88-94.

Meyer, M. K. (1999). Managing employees for outstanding customer service. In J. Martin & M. T. Conklin (Eds.), *Managing child nutrition programs: Leadership for excellence* (511-531). Gaithersburg, MD: Aspen Publishers, Inc.

Wakou, B. A., Keim, K. S., & Williams, G. S. (2003). Personal attributes and job competencies needed by EFNEP paraprofessionals as perceived by EFNEP professionals. *Journal of Nutrition Education and Behavior*, 35, 16-23.

BIOGRAPHY

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