

## Updating Competencies, Knowledge, and Skills Necessary for Effective School Nutrition Managers in their Current Work

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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

#### Objectives

The purpose of this study was to update competency, knowledge, and skill statements in a competency model developed by the National Food Service Management Institute in 1995 for both entry-level and beyond entry-level school nutrition managers

#### Methods

Thirty-eight school nutrition professionals served on a panel of experts to evaluate 479 knowledge and skill statements and 31 competency statements within 12 functional areas. Researchers used a modified Delphi technique for the study. In Phase I, panel members were surveyed to determine the relevance of the statements in the 1995 model to current job responsibilities of school nutrition managers and whether the experience level designation of entry-level or beyond entry-level was appropriate for current job responsibilities. In Phase II, results were compiled by the researchers and presented to panel members at regional work group sessions for further evaluation and consensus building. Due to the lack of a clear consensus in Phase II, researchers developed a final survey, which was mailed to the panel members in Phase III for the purpose of reaching consensus on the importance of competencies, knowledge, and skill statements in today's work environment.

#### Results

The revised competency model contains 526 knowledge and skill statements under 35 competencies within the original 12 functional areas. The number of original knowledge and skill statements was reduced from 479 to 457; however, an additional 69 statements were incorporated into the model to address new content areas. Forty-seven of the 479 statements were modified or re-written. The number of knowledge and skill statements designated as "important" for the entry-level school nutrition manager increased from 50% in the original document to 65% in the updated version. This increase indicated that today's entry-level school nutrition manager is expected to perform at a higher level than when the original competency model was developed in 1995.

#### Application to Child Nutrition Professionals

The updated competency model provides a framework for the development of job performance expectations, competency-based training, and program improvement guidelines for school nutrition managers. School district administrators can use the competency model to guide manager selection and performance-based evaluations.

## INTRODUCTION

The role of a school nutrition site-level manager is critical to the mission of feeding children nutritious meals at school. Since the passage of the National School Lunch Act of 1946, continual change has created higher levels of demand on the manager's job performance and added a multitude of new responsibilities. In today's school environment, nutrition managers supervise, oversee, and coordinate school nutrition program activities and collect key information for decision-making at the district level (Conklin, 1995). The success of school nutrition programs rests on the competencies, knowledge, skills, and other abilities of school foodservice personnel at every level, including school-site managers (Canter, 1988). Competencies represent performance characteristics that an employee brings to the workplace. Knowledge (information a person has in a specific content areas) and skills (the abilities to perform certain physical and/or mental tasks) are those visible competency characteristics that an employee must possess to accomplish a job task (Decker & Strader, 1997). Identifying the competencies, knowledge, and skills needed by the school nutrition staff is critical for a successful school nutrition program (DeMicco, Palakurthi, Sammons, & Williams, 1994).

The National Food Service Management Institute (NFSMI) is committed to providing school districts with an up-to-date research-based competency model. Sneed and White (1993) conducted the first NFSMI competency research study for school nutrition managers. The study served two purposes: 1) to investigate the knowledge and performance requirements necessary for competence in the role of a site-level school nutrition manager; and 2) to determine how managers' rating of the competencies differed based on variables such as enrollment, grade levels, years worked in school foodservice, and education level. The research resulted in the validation of 124 competencies required by school nutrition managers within 12 functional areas. Functional areas identified were: nutrition and menu planning, program accountability, sanitation and safety, equipment use and care, procurement, food production, food acceptability, service, financial management and recordkeeping, marketing, personnel management, and professional development. These functional areas and the 124 competencies identified served as the foundation for the continued development of a competency model by NFSMI.

The competencies identified by the Sneed and White (1993) research were explicit statements of performance required of school nutrition managers. Many of the statements were written as job duties rather than competencies. In order to incorporate the statements into an improved competency model format, NFSMI researchers began a series of research processes to collapse the original 124 statements into broader competency statements and to develop knowledge and skill statements required to master each of the competency statements. The outcome was the publication of a competency model, *Competencies, Knowledge, and Skills of Effective School Nutrition Managers*, which contained 31 competencies and 479 knowledge and skill statements grouped under the original 12 functional areas (NFSMI, 1995).

With increasing demand for accountability in school nutrition programs and a changing school environment, it is important for school officials to have a current competency model that includes the competency-based job functions necessary to succeed in the role of a school nutrition manager. To provide school districts with such a model, NFSMI conducted a research

study to update the 1995 *Competencies, Knowledge, and Skills of Effective School Nutrition Managers* competency model. The purpose of the study was to identify and update competencies, along with knowledge and skills expected of both entry-level and beyond entry-level school nutrition managers, and to identify gaps in existing competency, knowledge, and skill statements under the functional areas established in the original research.

## METHODOLOGY

### **Study Sample and Procedures**

Researchers contacted Child Nutrition Program state agency directors for recommendations of school nutrition professionals to participate in the study as expert panel members. Criteria for selection specified that individuals selected for the study must have the knowledge necessary to analyze competency, knowledge, and skill statements as they relate to the current work environment and that participants represent local directors of school nutrition programs, site-level school nutrition managers, and state agencies.

State agency personnel serving on the panel were either training specialists or had experience working at the school district level. School nutrition directors were knowledgeable about the tasks/duties performed by the managers in their school district and utilized performance standards for school nutrition managers. Panel members representing school nutrition managers had previous leadership roles and indicated a willingness to contribute to the group process. Potential participants were mailed a letter providing details of the research study and an invitation to participate. Forty school nutrition professionals, representing 20 states in four geographic regions (Northeast, Southeast, Midwest, and West) were selected for the research project. Two participants subsequently dropped out of the study, leaving a total of 38 expert panel members.

Researchers used a modified Delphi technique to gather data and reach consensus on the competencies, knowledge, and skills to include in the updated competency model. The Delphi technique is a method of facilitating consensus among individuals who have special knowledge on a given subject and are in a position to make an informed judgment. The approach is designed to elicit and develop individual responses to the problems posed and to enable the expert panel to refine their views as the group's work progresses in accordance with the assigned task (Dalkey, 1969). The number of experts for a Delphi Panel generally range between 15 to 50 participants. This provides enough data to see patterns in responses, but not as to overwhelm the researcher, who must sift through the information (Ziglio, 1996). This study was approved by The University of Southern Mississippi Human Subjects Committee of its Institutional Review Board.

The research to update the competency model proceeded in three phases: 1) preliminary survey of the Delphi Panel to determine relevance of model contents to current job responsibilities of school site managers; 2) panel discussions in four regions of the nation to evaluate survey results and work toward consensus on recommendations to update competencies, knowledge, and skill statements in the competency model; and 3) a final survey to validate the updated competency model contents.

## **Phase I**

Researchers developed and mailed a survey to the 38 Delphi Panel members who were selected and agreed to participate in the study. Respondents were asked to rate the relevance or importance of the 479 original knowledge and skill statements and 31 competency statements within the 12 functional areas of job responsibilities performed by site managers as they relate to today's work environment. A four-point importance rating scale was used: 1="not important," 2="somewhat important," 3="vital," and 4="extremely important." Knowledge and skill statements receiving a score of 2.5 or higher indicated that respondents considered the statement important in today's work environment. A score of less than 2.5 indicated a level of disagreement among panel members as to the importance of the statement. Because this modified Delphi technique allowed panel members to change their minds during the various rounds of consensus building, it was important to use a score of 2.5 to allow panel members an opportunity to further evaluate any statement that received a rating indicating even a minimal level of disagreement among panel members as to importance in today's work environment. Statements that received a score of 2.5 or more remained in the updated document as originally written. All of the 38 participants (100%) returned the survey in Phase I.

## **Phase II**

The 38 Delphi Panel members were invited to participate in a two-day work session in their respective regions to begin a second round of activities to update competencies, knowledge, and skill statements. Participants engaged in small sub-group panel discussions and consensus-building activities to accomplish the following objectives:

- further evaluate knowledge and skill statements with less than a 2.5 rating;
- re-evaluate the experience level (entry-level or beyond entry-level) assigned to statements in the 1995 model; and
- identify gaps in the existing competencies, knowledge, and skills as related to the manager's job responsibilities in today's work environment

The first undertaking for participants was to evaluate knowledge and skill statements. Each sub-group discussed three options for each knowledge and skill statement and reached a consensus for recommendations. The options were to 1) accept the statement; 2) accept the statement with modifications; or 3) delete the statement. If participants chose to accept a statement with modification, they were asked to provide a suggested revision. The Delphi Panel members reached consensus on a course of action for 273 of the original 479 statements in the first two phases of the research project. However, 206 knowledge and skill statements received such diverse recommendations that the researchers determined it was not possible to achieve consensus and that it would be necessary to continue consensus-building activities in Phase III.

To undertake the second objective--re-evaluating experience levels--participants were asked to review the experience-level designations (entry-level and beyond entry-level) for knowledge and skill statements in the 1995 model and either agree or disagree that the experience level was appropriate to current job performance requirements. Entry-level was defined as the point at which a person could be hired to do the job of school nutrition manager, but would require supervision until a higher level of competency was reached. Beyond entry-level was defined as the point at which a person achieves the knowledge, skills, and attitudes to perform reliably

without assistance (NFSMI, 1995). Researchers tabulated the results and re-grouped statements according to the experience designation selected by a majority (>50%) of participants as being appropriate for current job responsibilities. The number of entry-level designations increased from 50% in the original document to 65% in the updated versions, with a proportional drop in beyond-entry-level from 50% to 35%.

The final objective for groups in each of the four work sessions was to identify content gaps in the existing competencies, knowledge, and skills necessary for school nutrition managers to be effective in today's environment. During the first round of panel activities, participants worked in sub-groups to identify content areas relevant to current job responsibilities of the site-level school nutrition manager that were not addressed in the 1995 model. Competency, knowledge, and skill statements for the new content areas were drafted and presented to the total group for discussion in a second round of consensus-building activities. Six new areas were identified: crisis/risk management, food recall, cultural diversity in the labor force, diets for children with special needs, technology, and strategic planning. Researchers compiled the results for inclusion in the third and final phase of the research study.

### **Phase III**

In Phase III, researchers compiled the 206 knowledge and skill statements that lacked a clear consensus for recommended action into a survey designed to consolidate recommendations from the four panel work sessions. The Delphi Panel members were given the same three options in Phase III as in previous phases. They could choose to 1) accept the statement as written; 2) accept the statement with modification; or 3) delete the statement. However, if participants chose to modify a statement, they were asked to select from the list of written revisions recommended by panel members in Phase II.

The survey was mailed to the 38 Delphi Panel members with a letter that instructed them to choose one of the three options. Thirty-four (89.4%) returned the survey. There was a clear consensus among respondents returning the survey. Of the 206 knowledge and skill statements that previously lacked consensus, there was agreement in the final round to leave 137 statements unchanged, modify or rewrite 47 statements, and delete 22 statements.

To address content not included in the original 1995 model, researchers designed a final survey to encompass the Delphi Panel's recommendations for new competency, knowledge, and skill statements. The survey was mailed to a convenience sample of ten panel members from the Delphi Panel. Six panelists (60%) responded. Based on responses, four new competency statements and 69 new knowledge and skill statements were added to the updated version. Of the 69 new statements, panel members agreed that 21 represented entry-level knowledge/skills and the remaining 48 represented beyond entry-level.

## **RESULTS AND DISCUSSION**

The original 1995 competency model contained 31 competency statements and 479 knowledge and skill statements in 12 functional areas. The revised model contains 35 competency statements and 526 knowledge and skill statements. While the number of original knowledge and

skill statements was reduced from 479 to 457, an additional 69 statements were incorporated into the model to address new content areas. Forty-seven of the 479 statements were modified or re-written. Table 1 summarizes the number of knowledge and skill statement changes in the competency model by functional area.

Table 1. Changes in Knowledge and Skill Statements by Functional Areas					
Functional Area	Original Number of Knowledge and Skill Statements	Modified Statements	Deleted Statements	New Statements	Revised Number of Statements
Nutrition and Menu Planning	74	9	8	5	71
Program Accountability	32	0	0	12	44
Sanitation, Safety, and Security	46	2	1	33	78
Equipment Use and Care	19	3	0	1	20
Procurement	37	3	3	1	35
Food Production	41	4	0	1	42
Food Acceptability	16	4	0	0	16
Service	27	6	1	3	29
Financial Management and Recordkeeping	42	2	2	2	42
Marketing	34	5	2	0	32
Personnel Management	88	5	2	10	96
Professional Development	23	4	3	1	21
Total	479	47	22	69	526

The two functional areas with the highest percentage of overall changes were sanitation, safety, and security (70%) and program accountability (38%). In both instances, the changes can be attributed to the need for additional statements to address new responsibilities of school nutrition managers. Sanitation, safety, and security accounted for the greatest number of new knowledge and skill statements. Of the 69 new knowledge and skill statements, 33 (47.8%) were added to the sanitation, safety, and security functional area and 12 (17.4%) were added to program accountability. The functional area of nutrition and menu planning reflected the greatest number of knowledge and skills determined to be no longer valid in today's work environment. Of the 22 knowledge and skill statements selected for deletion by the work groups, 8 (36.4%) were from the functional area of nutrition and menu planning. Three functional areas -- program accountability, equipment use and care, and personnel management -- had no statements selected for deletion. Functional areas that had minimal recommendations for change among existing knowledge and skill statements included equipment use and care, procurement, food production, food acceptability, service, financial management and recordkeeping, marketing, and professional development. Most of the changes in these areas were attributed to modified statements rather than deletions or additional statements. Although financial management and

recordkeeping maintained the same number of statements (42), participants felt some changes were needed to address different responsibilities. Two statements were modified, two statements were deleted, and two statements were added.

Recommendations for changes in experience level by work groups resulted in 323 (71%) knowledge and skill statements as entry-level responsibility and 134 (29%) statements as beyond entry-level responsibility. The ratio in the original document was 50% for each experience category. These findings indicate that the level of requisite knowledge and skills has increased at the entry level. This may suggest that in today's work environment, entry-level school nutrition managers face more challenges to perform at a much higher level of efficiency than in previous years. Interestingly, the majority of respondents identified only two (30%) of the new knowledge and skill statements as entry level. This may have occurred because of the participants' perception that newer content areas were more complex and more likely to be integrated with the job responsibilities of other employees.

In recognition of additional responsibilities in today's school environment, the Delphi Panel recommended the addition of four new competency statements in three functional areas, increasing the total number of competencies from 31 to 35. Table 2 lists each of the 12 functional areas and competency statements in the updated model. The competencies added in the updated model are in the functional areas of program accountability, personnel management, and sanitation, safety, and security . They are shown in italics in Table 2.

Table 2. Updated Version of Competencies of Effective School Nutrition Managers

<b>I. Nutrition and Menu Planning</b>
1.1 Provides an atmosphere that ensures the purpose of the school nutrition program to "Safeauard the health and well-beina of the nation's children."
1.2 Ensures all meals served in the school nutrition program meet current nutritional standards and meal pattern requirements. includina children with special needs.
1.3 Maintains nutritional integrity of the school nutrition program through implementation of Dietary Guidelines for Americans.
1.4. Plans and Provides menus that encouraae student consumPtion.
1.5. Establishes a leadership role in providing nutrition education as part of the total school education Proaram.
<b>II. Promam Accountabilitv</b>
2.1 Maintains integrity and accountability of the school nutrition program through compliance with all federal, state, and local reaulations.
2.2 Ensures accountability of recorded documentation for compliance with federal, state, and local reaulations.
2.3 Ensures comPliance with school/school district mission and/or visions statements.
<b>III. Sanitation, Safetv, and Security</b>
3.1 Provides an environment conducive to protecting the health and well-being of the school's children throuah hiah levels of sanitation standards.
3.2 ResPonds to a food hold and recall in an exPedient, effective, and efficient manner.
3.3 Provides a safe environment for performance of work.
3.4 Provides leadership to ensure a secure work environment during an emergency or crisis.
<b>IV. Eauipment Use and Care</b>
4.1 Establishes administrative responsibilitv for all foodservice equipment.
4.2 Operates the school nutrition program in compliance with all energy conservation principles.
<b>V. Procurement</b>
5.1 Conducts the procurement process within the boundaries of federal, state, and local school Purchasina auidelines to Protect the intearity of the school nutrition Proaram.
5.2 Operates the school nutrition program to ensure that proper receiving procedures and storaae techniaues are followed.
<b>VI. Food Production</b>
6.1 Applies management principles to establishing and maintaining high standards of control for qualitv food production and distribution.
6.2 Provides a system for preparing and maintaining records that reflect an accurate report of planned menus, food produced, and food discarded.
6.3 Ensures the school nutrition program creditability through daily monitoring of food production procedures.
<b>VII. Food Aceotabilitv</b>
7.1 Maintains an operation that responds to student food preferences.
<b>VIII. Seivice</b>
8.1 Develops standards of excellence for providing and maintaining quality in the Presentation and service of food.
8.2 Provides leadership to ensure school meals will be served in pleasant facilities and by a courteous staff.
<b>IX. Financial Manaqement and Recordkeeping</b>
9.1 Operates school nutrition programs within established guidelines for a financial manaaement svstem that provides a cost-effective proaram of hiah intearity.
9.2 Provides effective organization to ensure all records and supporting documentation are maintained in accordance with federal, state, and local reaulations and policies.
9.3 Organizes and manages the business functions of the school foodservice office to maintain an efficient and effective oranization.
<b>X. Marketino</b>



## CONCLUSIONS AND APPLICATIONS

### **Implications for Improvement**

Employing and training qualified people is crucial to operating an effective school nutrition program. Although job requirements may differ from state to state and district to district, the findings from this research study provide information for establishing expectations essential for becoming an effective school nutrition manager. The increased number of knowledge and skill statements in the updated model indicates that today's school nutrition manager will be expected to perform at a much higher level than in previous years. An understanding of the job functional areas managed by school nutrition managers on a daily basis and the supporting competencies, knowledge, and skills that are vital to their effectiveness is the first step toward developing standards for performance.

### **Training for School Nutrition Managers**

This research provides the framework for "competency-based" training that focuses on the 12 functional areas. The information can be used to guide the development of basic orientation and refresher courses that ensure school nutrition managers have the knowledge and skills necessary for effective job performance. NFSMI, state agencies, and educational organizations can use the information as a foundation for the development of an educational curriculum for child nutritional professionals. Professional development activities for school nutrition managers can incorporate the competencies, knowledge, and skills identified in this study, which would ultimately improve the effectiveness of school nutrition programs.

### **Job Performance Descriptions**

The updated competency model will provide a framework for the development of job performance descriptions. Competency-based job descriptions provide the foundation for defining the role and responsibilities of an effective school nutrition manager for both selection and evaluation. School boards, school nutrition administrators, and other school officials can use the competency model as the basis to compare the school nutrition manager's performance against defined job responsibilities and previously established goals.

The Delphi technique works well to produce a consensus decision. However, there are several limitations that should be acknowledged when conducting a modified Delphi method such as the one used in this study. The outcome of the study must be recognized as only the opinion of a group of individuals and the results are only as valid as the opinion of the experts who made up the panel (Linstone & Turoff, 1975). In addition, due to the low number of panel members participating in the final gap analysis component of Phase III, recommendations for future job responsibilities may be less accurate than is desirable for a complex competency model that provides set guidelines for job performance.

## ACKNOWLEDGEMENTS

This article has been produced by the National Food Service Management Institute (NFSMI), Applied Research Division, located at The University of Southern Mississippi, with headquarters at The University of Mississippi. Funding for NFSMI has been provided with federal funds from

the U.S. Department of Agriculture, Food and Nutrition Service, to The University of Mississippi. The contents of this article do not necessarily reflect the views or policies of The University of Mississippi or the U.S. Department of Agriculture, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.

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