

**Identification of Issues Associated with
Operating School Nutrition Programs in
Districts with Less Than 30,000
Student Enrollment**



National Food Service Management Institute
The University of Mississippi
1-800-321-3054

2008

This publication has been produced by the National Food Service Management Institute – Applied Research Division, located at The University of Southern Mississippi with headquarters at The University of Mississippi. Funding for the Institute 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 publication 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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**National Food Service Management Institute
The University of Mississippi**

Building the Future Through Child Nutrition

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PURPOSE

The purpose of NFSMI is to improve the operation of Child Nutrition Programs through research, education and training, and information dissemination. The Administrative Offices and Divisions of Information Services and Education and Training are located in Oxford. The Division of Applied Research is located at The University of Southern Mississippi in Hattiesburg.

MISSION

The mission of the NFSMI is to provide information and services that promote the continuous improvement of Child Nutrition Programs.

VISION

The vision of the NFSMI is to be the leader in providing education, research, and resources to promote excellence in Child Nutrition Programs.

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**IDENTIFICATION OF ISSUES ASSOCIATED WITH
OPERATING SCHOOL NUTRITION PROGRAMS IN
DISTRICTS WITH LESS THAN 30,000 STUDENT ENROLLMENT**

EXECUTIVE SUMMARY

In 2006, Nettles and Carr explored the uniqueness of school nutrition (SN) programs in large school districts (student enrollment of 30,000 or greater) by identifying the operational issues and practices SN directors encounter and describing characteristics of SN directors and the programs they operate. Results indicated that the majority of SN directors (70.5%) had worked in SN programs for more than 15 years and more than two-thirds of SN directors (68%) recommended experience on an SN management team in a large district as a prerequisite to their position. The operational issues and practices identified as the most important by SN directors were effective staffing of management teams, serving as SN representatives with district administrations, and operating departments as businesses within the school settings. SN directors indicated that leadership characteristics and qualities were important for success within their positions and they indicated that integrity, finding solutions, responsibility, vision, and ethics were the most important of the leadership characteristics and qualities.

Large school districts, however, only account for a very small percentage of all school districts in the United States. Therefore, it is important to determine if these operational issues and practices and the characteristics and qualities of SN directors are common regardless of district size. This study builds on the Nettles and Carr (2006) study and addresses issues associated with operating SN programs in school districts with student enrollments of less than 30,000. The specific objectives of this study were to determine operational issues and practices

SN directors encounter in school districts with student enrollments of less than 30,000, identify characteristics and qualities needed by these SN directors to be successful, and identify whether training is needed to develop the characteristics and qualities.

The survey for this project was adapted from the survey developed by Nettles and Carr (2006) for the previous NFSMI study that explored similar issues in school districts with enrollments of 30,000 or more students. In the first section of the survey, SN directors were asked to indicate their agreement with 52 operational issues and practices related to SN operations. Agreement was rated on a 4-point scale, ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). Participants also were asked to indicate how often each operational issue and practice was encountered or performed by use of a 4-point scale that ranged from 1 (*never*) to 4 (*very often*). In section two, participants indicated how important each of 33 characteristics or qualities was to being a successful SN director and specified their opinion of the importance of training to develop the characteristics and qualities. In both instances, importance was rated on a 4-point scale, ranging from 1 (*not important*) to 4 (*very important*). In section three, participants were asked to provide additional information about themselves and their SN operation.

The sample for this study consisted of 700 SN directors randomly selected from public school districts with less than 30,000 student enrollment. The sample was stratified by USDA region with all states being represented and 100 SN directors selected from each of the seven USDA regions. Two hundred fifty seven (37%) directors responded to the survey.

The majority of the SN directors who responded to this study are female (85.9%) with both male and female respondents having a baccalaureate degree or higher (62.3%). These SN directors have worked in SN programs for 16 years or more (51%), and most (59.5%) have been in their current position for ten years or less. Prior to taking their current position, 22.5% of these

SN directors had worked on SN management teams and 18.7% had worked as SN directors in other school districts. Respondents represented the seven USDA regions with school enrollment size ranging from less than 2,799 to 29,999 and number of feeding sites ranging from less than five to 31 or greater.

Twenty-seven of the 52 operational issues and practice statements had mean ratings of greater than 3.01. Of these 27 statements, 11 statements had mean ratings greater than 3.61, suggesting that SN directors strongly agreed with these operational issues. There was a strong agreement between operational issues and practices encountered by SN directors with the exception of SN directors in school districts with 2,799 or less student enrollment. SN directors in these smaller school districts demonstrated significantly less agreement with SN directors in the larger school districts on five operational issue and practice statements. Some of these differences may be related to the size of these school districts or differences in resources available to SN programs.

SN directors indicated that the majority of quality and characteristic statements (78.8%) were important or very important for success as an SN director. When asked the importance of training to develop these qualities and characteristics, SN directors indicated that training was important or very important for 85% of the qualities and characteristics. These results suggest that SN directors working in these school districts value leadership and recognize the importance of training to develop leadership traits.

The findings of this study demonstrate that SN directors are business-minded career professionals operating the business of SN within the school setting. Regardless of district size, SN directors are facing similar operational issues. However, SN directors in school districts with less than 2,799 student enrollment may be encountering unique operational issues and practices

compared to SN directors in school districts of larger enrollment size. Qualities and characteristics necessary for success and whether training is needed to develop these qualities and characteristics appear to be uniformly important to SN directors across the range of school district sizes suggesting a universal need for effective leadership skills in SN programs. This study demonstrates that SN directors value leadership characteristics and training to develop these characteristics.

INTRODUCTION

In the 2005-2006 school year, there were 14,199 school districts, 86,792 schools, and over 48 million students in the United States (Hoffman, 2007a). Only 26 of these school districts (less than 1%) enrolled more than 100,000 students, accounting for 10.7% of all students receiving public education. The vast majority of school districts (83.6%) enrolled less than 5,000 students while 44.1% of these districts had 500 to 2,999 students, and another 7.3% enrolled fewer than 100 students. Hoffman (2007b) also reported that rural areas accounted for the greatest number of school districts (7,500), followed by suburban areas (3,543), towns (1,618), and cities (731).

The United States Department of Agriculture (USDA) administers child nutrition programs, which are available to all public school districts to provide a nutritional safety net for the nation's children. Two of these programs are the National School Lunch Program (NSLP) and School Breakfast Program (SBP), which provide nutritionally balanced, low cost or free meals to students. School districts choosing to take part in these programs receive cash subsidies and donated commodities from USDA for each meal that is served. In return, they must provide meals that meet federal nutrition requirements as well as offer free or reduced price meals to eligible children. In the fiscal year 2007, more than 10 million students received school breakfast and over 30 million students ate school lunch through these federally funded programs (USDA, 2007).

The district school nutrition (SN) director is the professional designated by the school district to oversee the SN program (Conklin, 2008). In addition to managing the planning, production, and distribution of meals through the NSLP and SBP, SN directors should function as nutrition leaders within the school community with a mission of safeguarding the health and

well-being of children (Martin, 2008). In the *Journal of the American Dietetic Association* (2006), Pilant suggested that SN directors must position the SN program as an integral part of the total education program. SN directors should also play a key role in the development of wellness policies to create an overall school environment that promotes access to healthy meals, physical activity, and learning experiences that enable students to develop healthy lifelong eating habits (Pilant, 2006).

In order for SN programs to achieve success with these multiple goals, SN directors must possess leadership as well as management skills. While the end result of both management and leadership is the achievement of organizational objectives, management focuses on coordinating resources while leadership provides direction and influences the activities of others. Competence in both management and leadership are vital to the effectiveness of an organization (Covey, 2004; DeMicco, et al., 1997). SN directors must be business-minded, with skills in finance, marketing, production, purchasing, human resources, nutrition, and technology (DeMicco, et al, 1997). Increasing competition from commercial operations, influences from the media, and peer pressure affecting students' food choices highlight the need for qualified leaders that will advance SN programs (Kramer-Atwood, et al. 2002; Kubik, Lytle, Hannan, Perry, & Story, 2003; USDA, 2001).

Since the National Food Service Management Institute was established, research to identify competencies, knowledge, and skills (CKS) needed by professionals working in child nutrition has been a priority. Initial work by Gregoire and Sneed (1994a; 1994b) led to the identification of CKS for child nutrition directors/supervisors (Carr, Cater, & Conklin, 1996). In 2001, the CKS were updated to reflect current operational trends in school nutrition (Rainville & Carr, 2001). The revised CKS contain 14 functional areas, 41 competencies, and 624 knowledge

and skill statements. Functional areas are defined as the broad grouping of job responsibilities that are performed by SN directors and supervisors in school districts. The functional areas for SN directors include the following: “Customer Service,” “Sanitation,” “Food Safety and Employee Safety,” “Financial Management and Record Keeping,” “Food Production,” “Procurement,” “Program Accountability,” “Nutrition and Menu Planning,” “General Management,” “Personnel Management,” “Facility Layout and Design and Equipment Selection,” “Environmental Management,” “Marketing,” “Computer Technology,” and “Nutrition Education.”

In 2006, Nettles and Carr explored the uniqueness of school nutrition programs in large school districts (student enrollment of 30,000 or greater) by identifying the operational issues and practices SN directors encounter and describing characteristics of SN directors and the programs they operate. They found that the majority of SN directors (70.5%) had worked in SN programs for more than 15 years and more than two-thirds of SN directors (68%) recommended experience on an SN management team in a large district as a prerequisite to their position. The operational issues and practices identified as the most important by SN directors were effective staffing of management teams, serving as SN representatives with district administrations, and operating departments as businesses within the school settings. SN directors indicated that leadership characteristics and qualities were important for success within their positions and they indicated that integrity, finding solutions, responsibility, vision, and ethics were the most important of the leadership characteristics and qualities.

Large school districts only account for a very small percentage of all school districts in the United States. Therefore, it is important to determine if these operational issues and practices and the characteristics and qualities of SN directors are common regardless of district size. No

research has been done to specifically address small districts with student enrollments of less than 30,000. The current study attempts to address this research void.

Research Objectives

The specific objectives of this study were the following:

- Determine operational issues and practices SN directors encounter in school districts with student enrollment of less than 30,000;
- Identify characteristics and qualities needed to be a successful SN director in school districts with student enrollment of less than 30,000; and
- Identify whether training is needed to develop the characteristics and qualities of a successful SN director in school districts with student enrollment of less than 30,000.

METHOD

Research Plan

The purpose of this project is to identify the issues associated with operating school nutrition (SN) programs in school districts with less than 30,000 student enrollment. This study will build on a previous National Food Management Institute, Applied Research Division (NFSMI, ARD) study that explored these issues in large school districts with student enrollment of 30,000 or greater. To accomplish this purpose, researchers explored three areas: 1) operational issues and practices encountered in SN programs in school districts with enrollments of less than 30,000 students, 2) characteristics and qualities needed for success by SN directors in school districts with enrollments of less than 30,000 students, and 3) training needs associated with developing these characteristics and qualities.

Survey

The survey entitled *Identification of Issues Associated with Operating School Nutrition Programs in Districts with Less than 30,000 Students* was adapted from the survey developed by Nettles and Carr (2006) from the previous NFSMI, ARD study that explored similar issues in school districts with enrollments of 30,000 or more students. The original survey was developed from qualitative data obtained during expert panel discussions with seven SN professionals from school districts with 30,000 or greater student enrollment, pilot tested for content validity, and administered to all SN directors in large school districts. The researchers made revisions to the original survey based on suggestions from Nettles and Carr, and to decrease the length of the survey.

The survey entitled *Identification of Issues Associated with Operating School Nutrition Programs in Districts with Less than 30,000 Students* consisted of three sections. In Part I of the

survey, participants were asked to indicate their agreement with 52 operational issues and practices related to SN operations. Agreement was rated on a 4-point scale, ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). Participants also were asked to indicate how often each operational issue and practice was encountered or performed by use of a 4-point scale that ranged from 1 (*never*) to 4 (*very often*). In Part II of the survey, 33 characteristics and qualities were listed. Participants were asked to indicate how important each characteristic and quality was to being a successful SN director. Also, participants were asked to indicate their opinion of the importance of training to develop the characteristics and qualities. In both instances, importance was rated on a 4-point scale, ranging from 1 (*not important*) to 4 (*very important*). In Part III of the survey, participants were asked to provide additional information about themselves and their SN operation.

The survey instrument used in this study was produced in a scannable form, using Magenta 5.0 Forms Designer software. This program creates scannable forms which allow participants to record their responses using a number two pencil. Surveys may then be scanned using Remark Classic OMR 2.5 software and directly transferred to a statistical program for analysis.

Sample

The sample for this study consisted of 700 SN directors from public school districts with less than 30,000 student enrollment. A study sample was selected from the database of school districts maintained by Market Data Retrieval, a company that specializes in the school market. The resulting random sample of 700 school districts was stratified by USDA region with all states being represented, and 100 SN directors selected from each of the seven USDA regions. The enrollment parameter of less than 30,000 students was established to focus the research on

all but the largest public school districts in the United States. In the earlier NFSMI, ARD research study, Nettles and Carr (2006) defined large school districts as those public school districts with 30,000 or more student enrollment.

Survey Distribution

A pre-notice letter was sent to each participant in the study approximately one week before study questionnaires were mailed. The purpose of the pre-notice letter was to briefly describe the study and notify the study participants that they would be receiving a survey within a few days. One week later, the survey, a cover letter, and self-addressed, postage-paid envelope were mailed to the 700 SN directors in the study sample. The cover letter explained the purpose of the study, asked for their participation, assured them of the confidentiality of their responses, provided researchers' contact information for questions and concerns, and described the return instructions for the completed survey. No identifying codes were placed on the survey instruments, thus preserving the anonymity of all respondents. Participants were asked to return the completed surveys within a three week time period. A reminder postcard was sent to all study participants one week after sending the initial surveys. The postcard encouraged the SN directors to complete and return the survey if they had not already done so.

Informed Consent

The researchers followed informed consent procedures approved by the Human Subjects Protection Review Committee at the University of Southern Mississippi for the research study.

Data Analysis

Surveys were analyzed using the statistical package SPSS Version 13.0 for Windows. Descriptive statistics included means, standard deviations, and frequencies of total responses. One-way ANOVA with Tukey's HSD post hoc was conducted to measure the effect of student

enrollment on the operational issues statements in Part I of the survey. Due to the number of tests run, Bonferroni Corrections were used to reduce the possibility of a Type-One error. Additional statistical analyses were planned. The researchers performed principle components factor analysis using the operational issues statements and the characteristics and qualities of successful SN directors. No cognitive factors were derived in either case; therefore, factor analysis is not reported.

RESULTS AND DISCUSSION

Researchers mailed surveys to the selected 700 SN directors in public school districts with enrollments of less than 30,000 students. Two hundred fifty seven directors (37%) responded to the survey. One survey was not used in the data analysis as it arrived too late to be included.

Characteristics of School Nutrition Directors

Demographic data for the responding SN directors are presented in Table 1. The majority of SN directors were female (85.9%) with both male and female respondents having a baccalaureate degree or higher (62.3%). Of those respondents with a baccalaureate degree or higher, the primary areas of study were other (24.1%), food and nutrition (21.4%), nutrition and dietetics (20.0%), and business (15.9%). When asked about their certification or credentialed status, 39.3% of SN directors indicated they were School Nutrition Association (SNA) certified, 34.3% were not certified, and 17.8% were State Department of Education certified.

Table 1

Personal Characteristics of Respondents

Question	Frequency ^a	%
What is your gender?		
Female	214	85.9
Male	35	14.1

^a Total N varies based on responses for each question

^b Total exceeds 100% since respondents could select more than one response

(Table 1 continues)

(Table 1 continued)

Personal Characteristics of Respondents

Question	Frequency ^a	%
What is your highest level of education?		
High school diploma or GED	63	25.8
Associate degree	29	11.9
Baccalaureate degree	62	25.4
Some graduate credits	39	16.0
Master's degree	32	13.1
Graduate hours beyond master's degree	17	7.0
Doctoral degree	2	0.8
If you have a Baccalaureate degree or greater, what was your primary area of study?		
Other	35	24.1
Food and Nutrition	31	21.4
Nutrition and Dietetics	29	20.0
Business	23	15.9
Food Service Management	12	8.3
Hospitality Management	8	5.5
Child Nutrition and Management	6	4.1
Culinary Food Service	1	0.7

^a Total N varies based on responses for each question

^b Total exceeds 100% since respondents could select more than one response

(Table 1 continues)

(Table 1 continued)

Personal Characteristics of Respondents

Question	Frequency ^a	%
What is your certification/credentialed status? ^b		
SNA certified	95	39.3
Not certified	83	34.3
State Department of Education certified	43	17.8
SNS credentialed	42	17.4
Registered Dietitian	31	12.8
Licensed Dietitian/Nutritionist	18	7.4
How many years have you worked in school nutrition (SN) programs?		
Less than one year	6	2.4
1 to 5 years	29	11.6
6 to 10 years	35	13.9
11 to 15 years	53	21.1
16 to 20 years	51	20.3
Greater than 20 years	77	30.7

^a Total N varies based on responses for each question

^b Total exceeds 100% since respondents could select more than one response

(Table 1 continues)

(Table 1 continued)

Personal Characteristics of Respondents

Question	Frequency ^a	%
How long have you been in your current position?		
Less than one year	17	6.9
1 to 5 years	64	25.7
6 to 10 years	67	26.9
11 to 15 years	51	20.5
16 to 20 years	27	10.8
Greater than 20 years	23	9.2
Prior to taking your current position, did you work		
Other	103	43.6
On the SN management team in a school district	53	22.5
As a SN director in a smaller school district	29	12.3
As a restaurant manager	23	9.7
As a SN director in a larger school district	15	6.4
As a healthcare foodservice director	13	5.5
Will you be retiring in the next five years?		
Yes	65	26.2
No	139	56.1
Not Sure	44	17.7

^a Total N varies based on responses for each question

^b Total exceeds 100% since respondents could select more than one response

(Table 1 continues)

(Table 1 continued)

Personal Characteristics of Respondents

Question	Frequency ^a	%
In choosing a successor for your position, would you recommend he/she have ^b		
Experience on the SN management team in a school district	147	60.5
Experience as a SN director in a smaller district	106	43.6
Undergraduate degree in nutrition	100	41.2
Undergraduate degree in business	75	30.9
Graduate degree in nutrition	41	16.9
Graduate degree in business	37	15.2
Experience in foodservice management in healthcare	28	11.5
In seeking resources/information to assist in the operation of your SN program, do you prefer		
Both	210	85.0
Print-based resources	26	10.5
Web-based resources	11	4.5

^aTotal N varies based on responses for each question

^bTotal exceeds 100% since respondents could select more than one response

(Table 1 continues)

(Table 1 continued)

Personal Characteristics of Respondents

Question	Frequency ^a	%
What form of continuing education do you prefer? ^b		
Meeting or conference	205	82.0
Professional development publication/article	106	42.4
Independent study (CD ROM, Internet)	75	30.0
Small study group	70	28.0
Independent study (video, manuals)	69	27.6
Online course/distance education	67	26.8
Blended learning (face-to-face and online)	63	25.2
Pre-conference program	61	24.4
Satellite seminar	57	22.8
Academic course work	41	16.4
Self study program	40	16.0
Home study course	26	10.4
Interactive multimedia modules	17	6.8
Poster session	10	4.0

^aTotal N varies based on responses for each question

^bTotal exceeds 100% since respondents could select more than one response

The majority of respondents have worked in SN programs for 16 years or more (51%) and in their current position for ten years or less (59.5%). Less than one-fourth (22.5%) of SN directors had worked on the SN management team in a school district prior to taking the SN director

position and 18.7% worked as an SN director in another school district. Over one-fourth (26.2%) of respondents reported that they will be retiring in the next five years. When asked the type of education and experience they would recommend for their successor, 60.5% of SN directors recommended experience on the SN management team in a school district followed by experience as an SN director in a smaller district (43.6%), undergraduate degree in nutrition (41.2%), and undergraduate degree in business (30.9%).

Two survey questions addressed SN directors' preferences regarding accessing SN resources and continuing education formats. When seeking resources or information to assist in the operation of their SN program, the majority (85%) of SN directors indicated that they prefer both print-based and Web based resources. The highest rated continuing education formats reported by SN directors were meeting or conference (82%), professional development publication/article (42.4%), and independent study (CD ROM, Internet) (30%).

Characteristics of School Nutrition Programs

SN directors responded to several questions intended to describe their districts SN programs (Table 2). Respondents were from all USDA regions, with the highest percentages from the Mountain Plains (17.9%), Southeast (15.5%), and Midwest (15.2%) regions. Almost one-half (44.4%) of SN directors were employed in districts with less than 2,799 students, while 35.9% and 19.7% of respondents work in districts ranging in size from 2,800-9,999 students and 10,000-29,999 students, respectively. Two-thirds (66.3%) of directors reported having ten or less feeding sites in their districts, while only 11.6% of respondents are serving 21 or more feedings sites. Over half (55.6%) of SN directors indicated that four or more district-level staff report directly to them and 63% reported that district-level SN professional staff oversee site-level operations.

Table 2

Characteristics of Responding School Nutrition Programs

Question	Frequency ^a	%
In what USDA region do you work?		
Mountain Plains	45	17.9
Southeast	39	15.5
Midwest	38	15.2
Western	37	14.7
Southwest	36	14.3
Mid-Atlantic	29	11.6
Northeast	27	10.8
What is the total enrollment in your school district?		
Less than 2,799 students	110	44.4
2,800 to 9,999 students	89	35.9
10,000 to 29,999 students	49	19.7
How many feeding sites do you serve?		
5 or less	101	40.6
6 to 10 sites	64	25.7
11 to 20 sites	55	22.1
21 or 30 sites	18	7.2
31 or greater sites	11	4.4

^a Total N varies based on responses for each question

^b Total exceeds 100% since respondents could select more than one response

(Table 2 continues)

(Table 2 continued)

Characteristics of Responding School Nutrition Programs

Question	Frequency ^a	%
How many district-level staff report directly to you?		
None	43	17.4
3 or less	67	27.0
4 to 5	40	16.1
6 or more	98	39.5
Do you have district-level SN professional staff overseeing site-level operations?		
Yes	155	63.0
No	91	37.0
What percentage of total revenue do you budget for food?		
35% or less	20	8.5
36% to 40%	73	31.1
41% to 45%	69	29.4
46% to 50%	51	21.7
51% or greater	22	9.3

^a Total N varies based on responses for each question

^b Total exceeds 100% since respondents could select more than one response

(Table 2 continues)

(Table 2 continued)

Characteristics of Responding School Nutrition Programs

Question	Frequency ^a	%
What percentage of total revenue do you budget for labor?		
35% or less	15	6.5
36% to 40%	50	21.6
41% to 45%	66	28.4
46% to 50%	55	23.7
51% or greater	46	19.8
Does your SN operation have a formalized marketing plan?		
Yes	36	63.0
No	209	37.0
Do you benchmark meals per labor hour (MPLH) among the schools in your district?		
Yes	151	62.9
No	89	37.1
What types of foodservice operations are used in your district? ^b		
On-site kitchens	218	87.6
Centralized kitchen serving both off-site and on-site	97	39.0
Central kitchen with no on-site service	12	4.8

^a Total N varies based on responses for each question

^b Total exceeds 100% since respondents could select more than one response

(Table 2 continues)

(Table 2 continued)

Characteristics of Responding School Nutrition Programs

Question	Frequency ^a	%
For hot and/or cold that is prepared centrally, how is the food transported? ^b		
Not applicable in my district	105	45.9
Cold foods delivered in bulk	93	40.6
Hot foods delivered in bulk	85	37.1
Hot foods delivered hot	85	37.1
Cold foods delivered preplated/preportioned	40	17.5
Hot foods delivered preplated/preportioned	26	11.4
Hot foods delivered cold to be rethermalized onsite	22	9.6
Is a central warehouse for storage of food and supplies used in your district?		
Yes	114	46.5
No	131	53.5
How does your SN operation manage foodservice equipment maintenance issues?		
A combination of the choices provided	155	66.3
SN department relies on district-level maintenance staff for equipment service	53	22.6
SN department contracts with an outside firm for equipment service	20	8.5
SN department employs their own maintenance staff to service equipment	6	2.6

^a Total N varies based on responses for each question

^b Total exceeds 100% since respondents could select more than one response

(Table 2 continues)

(Table 2 continued)

Characteristics of Responding School Nutrition Programs

Question	Frequency ^a	%
How does your SN operation handle technology support issues?		
SN department relies on district-level technology staff for support	124	50.6
A combination of the choices provided	108	44.1
SN department employs their own technology staff	9	3.7
SN department contracts with an outside firm for technology support	4	1.6
Is your SN operation using point-of-sale software?		
Yes	234	92.5
No	19	7.5
Is your SN operation using software to support production and other back-of-the-house activities?		
Yes	141	56.0
No	111	44.0
Considering the ethnic diversity of today's labor pool, do you have employees who speak little or no English?		
Yes	61	24.2
No	191	75.8

^a Total N varies based on responses for each question

^b Total exceeds 100% since respondents could select more than one response

(Table 2 continues)

(Table 2 continued)

Characteristics of Responding School Nutrition Programs

Question	Frequency ^a	%
How would you describe your school district over the last five years?		
Enrollment steady	98	38.9
Increasing enrollment	83	32.9
Decreasing enrollment	71	28.2
In the last five years, is your school district ^b		
Renovating existing schools	194	86.6
Building new schools	114	50.9
Closing schools	33	14.7
Is the management of your district SN program		
Self-operated	239	95.2
Contracted by a food service management company	12	4.8

^a Total N varies based on responses for each question

^b Total exceeds 100% since respondents could select more than one response

When asked the percentage of total revenue budgeted for food, 31.1% of SN directors reported a range of 36% to 40% and 29.4% of directors indicated a range of 41% to 45%. SN directors also were asked the percentage of total revenue budgeted for labor; 28.4% reported a range of 41% to 45%, and another 23.7% specified a range of 46% to 50%.

The majority (87.6%) of SN directors indicated the use of on-site kitchens in their districts and 46.5% reported a central warehouse was utilized for storage of food and supplies.

When asked how their SN operation manages foodservice equipment maintenance issues, two-thirds (66.3%) indicate they use a combination of employing their own maintenance staff, relying on district-level maintenance staff, and contracting with an outside firm for maintenance staff. Approximately half (50.6%) of SN directors responded that their SN department relies on district-level technology staff for technology support issues, while another 44.1% use a combination of employing their own technology staff, relying on district-level technology staff, and contracting with an outside firm for technology support. The vast majority (92.5%) of SN operations is using point-of-sale software and many (56.0%) are also utilizing software to support production and other back-of-the-house activities.

Almost one-third (32.9%) of SN directors described their districts as increasing student enrollment over the last five years, while 38.9% of SN directors reported enrollment steady, and another 28.2% reported decreasing enrollment. SN directors indicated that, in the last five years, their school districts are renovating existing schools (86.6%), building new schools (50.9%), and closing schools (14.7%).

Operational Issues and Practices

Respondents were provided 52 statements regarding operational issues and practices related to SN operations and were asked to indicate their agreement with each statement using a scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). Table 3 presents the means and standard deviations for the 52 statements in descending order of agreement. Twenty-seven of the 52 statements had a mean rating of 3.01 or greater. Of these 27 statements, eleven had a mean rating of 3.61 or greater, suggesting that SN directors strongly agreed with these operational issues.

Table 3

*Mean Agreement Ratings and Standard Deviations for Operational Issues and Practices
Encountered by School Nutrition Directors*

Statement	N	Mean^a	SD
I operate the SN department as a business within the school setting.	222	3.79	0.62
I serve as the SN representative with district administration.	217	3.77	0.67
I view my leadership skills as impacting the success of the SN program.	228	3.77	0.46
I view the SN department as a business within the school setting.	231	3.76	0.58
I have supervisory responsibilities with site-level employees.	222	3.75	0.61
Menus are standardized throughout the district.	228	3.72	0.61
Putting together an effective management team is critical to the operational success of the SN department.	219	3.68	0.63
Menus are developed by district level SN professional staff.	228	3.66	0.86
The cost of technology for SN programs continues to increase.	218	3.66	0.52
The school district has a district-wide technology infrastructure.	213	3.63	0.67
Menus are planned to meet the needs of a diverse student body.	223	3.61	0.63
SN department is current with technology practices.	227	3.48	0.66
I directly supervise district-level SN professional staff.	229	3.46	1.00
The SN department employs district-level professional staff to oversee site-level operations.	221	3.44	1.01
District-level SN coordinators/supervisors review site-level employee records and document work performance, training, attendance, etc.	221	3.38	0.98

^a Scale = 1 (*strongly disagree*) to 4 (*strongly agree*)

(Table 3 continues)

(Table 3 continued)

*Mean Agreement Ratings and Standard Deviations for Operational Issues and Practices
Encountered by School Nutrition Directors*

Statement	N	Mean^a	SD
My work schedule is greater than 40 hours per week.	234	3.32	0.91
I consider my SN job responsibilities similar to those of a Chief Executive Officer.	222	3.31	0.84
I seek professional development opportunities beyond what my school district provides to improve my leadership skills.	235	3.31	0.75
District administrators support the contribution provided by the SN department.	226	3.27	0.70
Recruiting and retaining qualified SN professional staff is difficult.	229	3.22	0.79
The SN department performs human resource functions for SN employees.	225	3.22	0.92
The volume and complexity of meeting the special nutrition needs of children is a challenge.	234	3.20	0.68
I value the importance of implementing a marketing plan for my SN operation.	217	3.18	0.73
District administrators view the SN department as a business within the school setting.	231	3.18	0.85
The cost of maintaining current software and hardware in all feeding sites is a financial challenge.	231	3.13	0.84
I am faced with financial challenges to support marketing activities.	234	3.09	0.92
Recruiting and retaining qualified SN site-level staff is difficult.	234	3.01	0.84
District-level SN professional staff assures consistency in implementing the marketing plan for all school sites.	233	2.92	0.95

^a Scale = 1 (*strongly disagree*) to 4 (*strongly agree*)

(Table 3 continues)

(Table 3 continued)

*Mean Agreement Ratings and Standard Deviations for Operational Issues and Practices
Encountered by School Nutrition Directors*

Statement	N	Mean^a	SD
I am faced with SN staff challenges to implement a successful marketing plan.	226	2.90	0.86
Retaining competent maintenance staff is a challenge.	231	2.88	1.00
The installation of current software in all feeding sites is a time management challenge.	231	2.86	0.95
My school district provides professional development opportunities that support my leadership growth.	220	2.83	0.97
Understanding the financial aspect of operating the SN program is a challenge.	227	2.79	0.93
I encounter funding challenges related to the food production/transport systems used in my district.	216	2.68	1.11
Lack of understanding of SN program needs by district-level technology staff presents challenges.	235	2.66	1.91
I face operational challenges with inadequate cafeteria dining facilities.	230	2.63	1.02
I am challenged with employee issues due to lack of support from Human Resources.	222	2.61	0.93
The SN department encounters challenges when trying to utilize SN software with the district-level technology.	219	2.58	0.92
I am faced with communication challenges due to the numerous organizational layers in the school district.	225	2.57	0.88
I face operational challenges with inadequate food preparation facilities.	223	2.53	1.00
I face operational challenges with inadequate foodservice equipment.	234	2.53	0.96

^a Scale = 1 (*strongly disagree*) to 4 (*strongly agree*)

(Table 3 continues)

(Table 3 continued)

*Mean Agreement Ratings and Standard Deviations for Operational Issues and Practices
Encountered by School Nutrition Directors*

Statement	N	Mean^a	SD
I am faced with community political challenges in operating the SN program.	234	2.52	0.96
I am faced with district political challenges in operating the SN program.	231	2.45	1.00
I am not involved in day-to-day operations at site-level facilities.	220	2.44	1.14
Retaining competent technology staff is a challenge.	225	2.38	1.98
Frequent turnover in district-level administration presents challenges.	235	2.35	0.85
I often encounter challenges with district-level support when trying to address disciplinary issues with employees.	230	2.30	0.93
I am faced with communication challenges due to the numerous organizational layers in the SN program.	229	2.16	0.81
Dealing with labor unions presents challenges.	215	1.95	1.09
The SN department performs human resource functions for other district departments.	227	1.54	0.88
Oversight is required to ensure that the temp agency complies with district Human Resource policies.	194	1.34	0.87
The SN department utilizes a temp agency for site-level substitute staff.	226	1.22	0.71

^a Scale = 1 (*strongly disagree*) to 4 (*strongly agree*)

Operational issues with the highest mean ratings were: “I operate the SN department as a business within the school setting” (3.79 ± 0.62); “I serve as the SN representative with district administration” (3.77 ± 0.67); and “I view my leadership skills as impacting the success of the

SN program” (3.77 ± 0.46). Operational issues with the lowest mean ratings were: “The SN department utilizes a temp agency for site-level substitute staff” (1.22 ± 0.71); “Oversight is required to ensure that the temp agency complies with district Human Resources policies” (1.34 ± 0.87); and “The SN department performs human resource functions for other district departments” (1.54 ± 0.88).

When one-way ANOVA with Tukey’s HSD post hoc with Bonferroni correction was applied to measure the effect of school district enrollment on operational issues and practices, five statements demonstrated significance ($P < .002$). These statements were: “The SN department employs district-level professional staff to oversee site-level operations”; “Putting together an effective management team is critical to the operational success of the SN department”; “I serve as the SN representative with district administration”; “The school district has a district-wide technology infrastructure”; and “My work schedule is greater than 40 hours per week” (Table 4).

Table 4

One-Way ANOVA with Tukey's HSD Post Hoc with Bonferroni Correction, The Effect of School District Enrollment on Operational Issues and Practices

Operational Issue and Practice	Student Enrollment	Mean^a	SD	Significance
The SN department employs district-level professional staff to oversee site-level operations.	Less than 2,799	2.95	0.89	P<.002
	2,800-9,999	3.29	0.85	
	10,000-29,999	3.50	0.91	
Putting together an effective management team is critical to the operational success of the SN department.	Less than 2,799	3.58	0.65	P<.002
	2,800-9,999	3.86	0.35	
	10,000-29,999	3.87	0.34	
I serve as the representative with district administration.	Less than 2,799	3.48	0.77	P<.002
	2,800-9,999	3.84	0.51	
	10,000-29,999	3.89	0.38	
The school district has a district-wide technology infrastructure.	Less than 2,799	3.41	0.69	P<.002
	2,800-9,999	3.72	0.57	
	10,000-29,999	3.76	0.48	
My work schedule is greater than 40 hours per week.	Less than 2,799	3.14	0.96	P<.002
	2,800-9,999	3.41	0.74	
	10,000-29,999	3.65	0.64	

^aScale = 1 (*strongly agree*) to 4 (*strongly disagree*)

Directors were also asked to indicate how often they encounter or perform each operational issue using a scale ranging from 1 (*never*) to 4 (*very often*). Table 5 depicts the

frequency of performance or how often each operational issue or practice is encountered by the responding SN directors. The statements in this table are listed in descending order based on the “Very Often” column. The majority of directors are performing or encountering the following issues very often: “I serve as the SN representative with district administration” (87.6%); “I operate the SN department as a business within the school setting” (86.9%); “Menus are developed by district level SN professional staff” (83.3%); and “I have supervisory responsibilities with site-level employees” (82.4%). Most SN directors indicate that they never encounter the following issues: “The SN department utilizes a temp agency for site-level substitute staff” (89.4%); “Oversight is required to ensure that the temp agency complies with district Human Resource policies” (85.6%); and “The SN department performs human resource functions for other district departments” (67.4%).

Table 5

Frequency of Performance of Operational Issues and Practices

Statement	Very Often ^{a,b}	Sometimes	Rarely	Never
I serve as the SN representative with district administration.	190 ^{cd} (87.6)	13 (6.0)	6 (2.7)	8 (3.7)
I operate the SN department as a business within the school setting.	193 (86.9)	19 (8.6)	3 (1.4)	7 (3.2)
Menus are developed by district-level SN professional staff.	190 (83.3)	18 (7.9)	1 (0.4)	19 (8.3)
I have supervisory responsibilities with site-level employees.	183 (82.4)	28 (12.6)	6 (2.7)	5 (2.3)

^a Items are reported in descending order based on the “very often” percentages

^b Responses were made using the scale, 1 (*never*), 2 (*rarely*), 3 (*sometimes*), 4 (*very often*)

^c Number responding (percentage)

^d Total N varies based on responses for each question

(Table 5 continues)

(Table 5 continued)

Frequency of Performance of Operational Issues and Practices

Statement	Very Often ^{a,b}	Sometimes	Rarely	Never
I view the SN department as a business within the school setting.	189 (81.8)	34 (14.7)	3 (1.3)	5 (2.2)
Menus are standardized throughout the district.	182 (79.8)	32 (14.0)	11 (4.8)	3 (1.4)
I view my leadership skills as impacting the success of the SN program.	179 (78.5)	45 (19.7)	4 (1.8)	0 (0.0)
Putting together an effective management team is critical to the operational success of the SN department.	164 (74.9)	45 (20.5)	5 (2.3)	5 (2.3)
I directly supervise district-level SN professional staff.	167 (72.9)	26 (11.4)	11 (4.8)	25 (10.9)
The school district has a district-wide technology infrastructure.	153 (71.8)	44 (20.7)	13 (6.1)	3 (1.4)
The SN program employs district-level professional staff to oversee site-level operations.	158 (71.5)	26 (11.8)	13 (5.9)	24 (10.8)
The cost of technology for SN program continues to increase.	153 (70.2)	58 (26.6)	5 (2.3)	2 (0.9)
Menus are planned to meet the needs of a diverse student body.	153 (68.6)	56 (25.1)	12 (5.4)	2 (0.9)

^a Items are reported in descending order based on the “very often” percentages

^b Responses were made using the scale, 1 (*never*), 2 (*rarely*), 3 (*sometimes*), 4 (*very often*)

^c Number responding (percentage)

^d Total N varies based on responses for each question

(Table 5 continues)

(Table 5 continued)

Frequency of Performance of Operational Issues and Practices

Statement	Very Often ^{a,b}	Sometimes	Rarely	Never
District-level SN coordinators/supervisors review site-level employee records and document work performance, training, attendance, etc.	143 (64.7)	37 (16.7)	22 (10.0)	19 (8.6)
SN department is current with technology practices.	128 (56.4)	84 (37.0)	12 (5.3)	3 (1.3)
My work schedule is greater than 40 hours per week.	132 (56.4)	58 (24.8)	31 (13.2)	13 (5.6)
I consider my SN job responsibilities similar to those of a Chief Executive Officer.	112 (50.5)	78 (35.0)	21 (9.5)	11 (5.0)
The SN department performs human resource functions for SN employees.	105 (46.7)	83 (36.9)	18 (8.0)	19 (8.4)
I seek professional development opportunities beyond what my school district provides to improve my leadership skills.	106 (45.1)	101 (43.0)	22 (9.4)	6 (2.5)
Recruiting and retaining qualified SN professional staff is difficult.	96 (41.9)	93 (40.6)	34 (14.9)	6 (2.6)
District administrators view the SN department as a business within the school setting.	95 (41.1)	94 (40.7)	30 (13.0)	12 (5.2)

^a Items are reported in descending order based on the “very often” percentages

^b Responses were made using the scale, 1 (*never*), 2 (*rarely*), 3 (*sometimes*), 4 (*very often*)

^c Number responding (percentage)

^d Total N varies based on responses for each question

(Table 5 continues)

(Table 5 continued)

Frequency of Performance of Operational Issues and Practices

Statement	Very Often ^{a,b}	Sometimes	Rarely	Never
I am faced with financial challenges to support marketing activities.	94 (40.2)	84 (35.9)	40 (17.1)	16 (6.8)
District administrators support the contribution provided by the SN department.	90 (39.8)	110 (48.7)	23 (10.2)	3 (1.3)
The cost of maintaining current software and hardware in all feeding sites is a financial challenge.	88 (38.1)	95 (41.1)	38 (16.5)	10 (4.3)
I value the importance of implementing a marketing plan for my SN operation.	76 (35.0)	110 (50.7)	26 (12.0)	5 (2.3)
The volume and complexity of meeting the special nutrition needs of children is a challenge.	81 (34.6)	120 (51.3)	32 (13.7)	1 (0.4)
Retaining competent maintenance staff is a challenge.	78 (33.7)	72 (31.2)	57 (24.7)	24 (10.4)
Recruiting and retaining qualified SN site-level staff is difficult.	74 (31.6)	98 (41.9)	52 (22.2)	10 (4.3)
District-level SN professional staff assures consistency in implementing the marketing plan for all school sites.	73 (31.3)	92 (39.5)	45 (19.3)	23 (9.9)
The installation of current software in all feeding sites is a time management challenge.	68 (29.4)	83 (35.9)	59 (25.5)	21 (9.2)

^a Items are reported in descending order based on the “very often” percentages

^b Responses were made using the scale, 1 (*never*), 2 (*rarely*), 3 (*sometimes*), 4 (*very often*)

^c Number responding (percentage)

^d Total N varies based on responses for each question

(Table 5 continues)

(Table 5 continued)

Frequency of Performance of Operational Issues and Practices

Statement	Very Often^{a,b}	Sometimes	Rarely	Never
My school district provides professional development opportunities that support my leadership growth.	65 (29.5)	79 (35.9)	50 (22.8)	26 (11.8)
I am faced with SN staff challenges to implement a successful marketing plan.	56 (24.8)	109 (48.2)	44 (19.5)	17 (7.5)
I face operational challenges with inadequate cafeteria dining facilities.	56 (24.3)	68 (29.6)	70 (30.4)	36 (15.7)
Understanding the financial aspect of operating the SN program is a challenge.	54 (23.8)	98 (43.1)	49 (21.6)	26 (11.5)
I am not involved in day-to-day operations at site-level facilities.	51 (23.1)	60 (27.2)	44 (20.0)	65 (29.5)
Lack of understanding of SN program needs by district-level technology staff presents challenges.	47 (20.0)	84 (35.7)	81 (34.5)	23 (9.8)
I face operational challenges with inadequate food preparation facilities.	44 (19.8)	69 (30.9)	71 (31.8)	39 (17.5)
I am faced with community political challenges in operating the SN program.	44 (18.8)	67 (28.6)	89 (38.1)	34 (14.5)
I am challenged with employee issues due to lack of support from Human Resources.	41 (18.5)	82 (36.9)	70 (31.5)	29 (13.1)
I face operational challenges with inadequate foodservice equipment.	43 (18.4)	71 (30.3)	86 (36.8)	34 (14.5)

^a Items are reported in descending order based on the “very often” percentages

^b Responses were made using the scale, 1 (*never*), 2 (*rarely*), 3 (*sometimes*), 4 (*very often*)

^c Number responding (percentage)

^d Total N varies based on responses for each question

(Table 5 continues)

(Table 5 continued)

Frequency of Performance of Operational Issues and Practices

Statement	Very Often ^{a,b}	Sometimes	Rarely	Never
I am faced with district political challenges in operating the SN program.	39 (16.9)	72 (31.2)	75 (32.5)	45 (19.5)
The SN department encounters challenges when trying to utilize SN software with the district-level technology.	36 (16.4)	84 (38.4)	69 (31.5)	30 (13.7)
I am faced with communication challenges due to the numerous organizational layers in the school district.	32 (14.2)	92 (40.9)	74 (32.9)	27 (12.0)
Retaining competent technology staff is a challenge.	29 (12.8)	80 (35.6)	63 (28.0)	53 (23.6)
I often encounter challenges with district-level support when trying to address disciplinary issues with employees.	27 (11.7)	64 (27.8)	91 (39.6)	48 (20.9)
Frequent turnover in district-level administration presents challenges.	27 (11.5)	60 (25.5)	117 (49.8)	31 (13.2)
Dealing with labor unions presents challenges.	24 (11.2)	51 (23.7)	31 (14.4)	109 (50.7)
I encounter funding challenges related to the food production/transport systems used in my district.	16 (8.2)	6 (3.1)	6 (3.1)	166 (85.6)

^a Items are reported in descending order based on the “very often” percentages

^b Responses were made using the scale, 1 (*never*), 2 (*rarely*), 3 (*sometimes*), 4 (*very often*)

^c Number responding (percentage)

^d Total N varies based on responses for each question

(Table 5 continues)

(Table 5 continued)

Frequency of Performance of Operational Issues and Practices

Statement	Very Often ^{a,b}	Sometimes	Rarely	Never
Oversight is required to ensure that the temp agency complies with district Human Resource policies.	16 (8.2)	6 (3.1)	6 (3.1)	166 (85.6)
The SN department utilizes a temp agency for site-level substitute staff.	11 (4.9)	4 (1.7)	9 (4.0)	202 (89.4)
I am faced with communication challenges due to the numerous organizational layers in the SN program.	11 (4.8)	63 (27.5)	106 (46.3)	49 (21.4)
The SN department performs human resource functions for other district departments.	11 (4.8)	26 (11.5)	37 (16.3)	153 (67.4)

^a Items are reported in descending order based on the “very often” percentages

^b Responses were made using the scale, 1 (*never*), 2 (*rarely*), 3 (*sometimes*), 4 (*very often*)

^c Number responding (percentage)

^d Total N varies based on responses for each question

Characteristics and Qualities of School Nutrition Directors

Respondents were provided a list of 33 phrases describing characteristics or qualities of directors operating SN programs and were asked to rate the importance of each phrase to being a successful SN director using a scale ranging from 1 (*not important*) to 4 (*very important*). Table 6 presents the means and standard deviations for the 33 phrases in descending order of importance. Twenty-six of the 33 phrases had mean ratings of greater than 3.5, signifying that the majority of SN directors rated these phrases as “important” or “very important.” Characteristics with the highest mean ratings were: “Maintains integrity” (3.92 ± 0.27), “Accepts responsibility” (3.92 ± 0.31), “Finds solutions” (3.89 ± 0.31), and “Leads in an ethically

appropriate manner” (3.88 ± 0.33). Characteristics with the lowest mean ratings were: “Conducts applied research” (2.64 ± 0.81) and “Micro-manages on rare occasions” (2.69 ± 0.90).

Table 6

Mean Importance Ratings and Standard Deviations for Characteristics and Qualities to Be a Successful School Nutrition Director

Statement	N	Mean^a	SD
Maintains integrity	211	3.92	0.27
Accepts responsibility	223	3.92	0.31
Finds solutions	215	3.89	0.31
Leads in an ethically appropriate manner	216	3.88	0.33
Possesses the ability to multi-task	220	3.84	0.40
Supports open communication	212	3.83	0.39
Leads others effectively	220	3.81	0.39
Listens actively	219	3.81	0.39
Handles difficult people and different personalities	212	3.81	0.39
Handles conflict effectively	216	3.79	0.42
Recognizes strengths of others	214	3.78	0.42
Desires to gain new knowledge	218	3.76	0.45
Makes decisions in a timely manner	216	3.75	0.45
Manages with confidence	219	3.74	0.46
Thinks independently	215	3.72	0.52
Delegates tasks appropriately	219	3.69	0.48

^a Scale = 1 (*not important*) to 4 (*very important*)

(Table 6 continues)

(Table 6 continued)

Mean Importance Ratings and Standard Deviations for Characteristics and Qualities to Be a Successful School Nutrition Director

Statement	N	Mean^a	SD
Knows own strengths and weaknesses	216	3.67	0.49
Uses coaching skills effectively	216	3.64	0.54
Conveys passion for their SN operation	212	3.64	0.57
Applies team building skills	217	3.64	0.55
Considers potential risks before making decisions	218	3.63	0.52
Seeks professional development opportunities to enhance knowledge and skills	217	3.61	0.60
Possesses analytical skills	218	3.55	0.58
Creates a vision for their SN operation	212	3.55	0.60
Strategizes solutions for potential problems	212	3.55	0.58
Supports creativity in others	217	3.51	0.59
Manages with determination	224	3.49	0.56
Changes management styles to fit the situation	222	3.38	0.75
Possesses political savvy	229	3.07	0.80
Takes risks	221	2.91	0.81
Has a global perspective	220	2.89	0.83
Micro-manages on rare occasions	226	2.69	0.90
Conducts applied research	218	2.64	0.81

^a Scale = 1 (*not important*) to 4 (*very important*)

SN directors were also asked to rate the importance of training to the development of these characteristics and qualities using a scale ranging from 1 (*very unimportant*) to 4 (*very important*). Table 7 depicts the means and standard deviations for the 33 characteristics and qualities in descending order of importance. Twenty-eight of the 33 characteristics and qualities phrases had mean ratings greater than 3.0, of which 11 phrases had mean ratings of 3.5 or greater, suggesting that SN directors strongly believe training programs are important to developing these qualities. Characteristics with the highest importance ratings for training include: “Handles difficult people and different personalities” (3.62 ± 0.61); “Handles conflict effectively” (3.61 ± 0.59); “Leads in an ethically appropriate manner” (3.60 ± 0.67); “Desires to gain new knowledge” (3.59 ± 0.63); “Leads others effectively” (3.59 ± 0.62); “Supports open communication” (3.56 ± 0.63); and “Finds solutions” (3.56 ± 0.65). Characteristics with the lowest mean ratings for training were: “Micro-manages on rare occasions” (2.50 ± 0.93); “Takes risks” (2.68 ± 0.88); “Conducts applied research” (2.68 ± 0.91); and “Has a global perspective” (2.69 ± 0.85).

Table 7

Mean Importance Ratings and Standard Deviations for Training Needed to Develop Characteristics of Directors Operating School Nutrition Programs

Statement	N	Mean ^a	SD
Handles difficult people and different personalities	212	3.62	0.61
Handles conflict effectively	204	3.61	0.59
Leads in an ethically appropriate manner	209	3.60	0.67
Desires to gain new knowledge	199	3.59	0.63

^a Scale = 1 (*not important*) to 4 (*very important*)

(*Table 7 continues*)

(Table 7 continued)

*Mean Importance Ratings and Standard Deviations for Training Needed to Develop
Characteristics of Directors Operating School Nutrition Programs*

Statement	N	Mean^a	SD
Leads others effectively	203	3.59	0.62
Supports open communication	200	3.56	0.63
Finds solutions	197	3.56	0.65
Seeks professional development opportunities to enhance knowledge and skills	203	3.55	0.65
Applies team building skills	215	3.54	0.67
Maintains integrity	200	3.53	0.74
Uses coaching skills effectively	204	3.50	0.59
Accepts responsibility	207	3.49	0.78
Recognizes strengths of others	204	3.48	0.71
Listens actively	216	3.44	0.73
Makes decisions in a timely manner	200	3.43	0.73
Possesses ability to multi-task	206	3.41	0.80
Delegates tasks appropriately	201	3.40	0.74
Manages with confidence	202	3.38	0.74
Strategizes solutions for potential problems	210	3.35	0.71
Considers potential risks before making decisions	198	3.33	0.71
Creates a vision for their SN operation	200	3.33	0.73
Knows own strengths and weaknesses	205	3.33	0.76

^a Scale = 1 (*not important*) to 4 (*very important*)

(Table 7 continues)

(Table 7 continued)

*Mean Importance Ratings and Standard Deviations for Training Needed to Develop
Characteristics of Directors Operating School Nutrition Programs*

Statement	N	Mean^a	SD
Possesses analytical skills	206	3.28	0.76
Changes management styles to fit situation	206	3.24	0.80
Supports creativity in others	201	3.21	0.77
Conveys passion for their SN operation	211	3.21	0.89
Thinks independently	197	3.18	0.91
Manages with determination	203	3.09	0.81
Possesses political savvy	205	2.89	0.89
Has a global perspective	200	2.69	0.85
Conducts applied research	203	2.68	0.91
Takes risks	209	2.68	0.88
Micro-manages on rare occasions	214	2.50	0.93

^a Scale = 1 (*not important*) to 4 (*very important*)

CONCLUSIONS AND RECOMMENDATIONS

Research Study Conclusions

The results of this study provide insight into the positions of school nutrition (SN) directors in schools with less than 30,000 student enrollment. The specific areas examined in this study are the program and personal characteristics of SN directors, operational issues and practices faced by SN directors, characteristics and qualities needed for success by SN directors, and the importance of training to develop these qualities and characteristics. The results of this study demonstrate that SN directors in school districts with less than 30,000 student enrollment agree on most of the operational issues and practices encountered by SN directors and all the qualities and characteristics needed for success by SN directors. Furthermore, SN directors in districts with less than 30,000 student enrollment agree on the importance of training to develop qualities and characteristics needed for success by SN directors.

The majority (51%) of SN directors responding to this study had worked in SN programs for 16 years or more, and most (59.5%) had been in their current position for 10 years or less. Prior to taking their current position, 22.5% of these SN directors had worked on SN management teams, and 18.7% had worked as SN directors in another school district. These results suggest that the position of SN director in school districts is typically not an entry-level management position.

SN directors reported that their primary areas of study in college were food and nutrition (21.4%), nutrition and dietetics (20.0%), and business (15.9%). When asked to identify criteria for choosing a successor to their current position, 60.5% of these SN directors recommended experience on an SN management team, 43.6% recommended experience as an SN director in a smaller district, 41.2% recommended an undergraduate degree in nutrition, and 30.9%

recommended an undergraduate degree in business. These results suggest that a baccalaureate degree in a food, nutrition, or business combined with managerial experience in school nutrition is a desirable background for an individual pursuing an SN director position.

When SN directors were asked about their certification or credentialed status, 39.3% indicated they were SNA certified, 17.8% indicated they were state department of education certified, 17.4% were SNS credentialed, and 12.8% were registered dietitians. When the same SN directors were asked their preferences regarding information to assist them in the operation of their SN program, 85% indicated they preferred both print-based and Web-based resources. When asked about preferred continuing education formats, 82% of SN directors selected meeting or conference, while 42.4% selected professional development publications/articles, and 30.0% selected independent study with CD ROM or the Internet. These results suggest that many SN directors recognize the need for lifelong learning and value certification or credentialing. Also, many SN directors are self-directed in seeking continuing education, and most SN directors participate in continuing education activities away from work.

Respondents to this study represented the seven USDA regions with school enrollment size ranging from less than 2,799 to 29,999, and number of feeding sites ranging from less than five to 31 or greater. Within these study parameters it was observed that there was a strong agreement between operational issues and practices encountered by SN directors with the exception of SN directors in school districts with 2,799 or less student enrollment. SN directors in these smaller school districts demonstrated significantly less agreement with SN directors in the larger school districts on five operational issue and practice statements: “The SN department employs district-level professional staff to oversee site-level operations” ($p < .002$); “Putting together an effective management team is critical to the operational success of the SN

department" ($p < .002$); "I serve as the SN representative with district administration" ($p < .002$); "The school district has a district-wide technology infrastructure" ($p < .002$); and "My work schedule is greater than 40 hours per week" ($p < .002$). Some of these differences may be related to the size of these school districts and related resources of the SN program.

SN directors in this study indicated that the majority of quality and characteristic statements (78.8%) were important or very important for success as an SN director. When asked the importance of training to develop these qualities and characteristics, SN directors indicated that training was important or very important for 85% of the qualities and characteristics. These results suggest that SN directors working in these school districts value leadership and recognize the importance of training to develop leadership traits.

When results from this study were reviewed with results of the previous study by Nettles and Carr (2006) investigating SN directors in districts with greater than 30,000 student enrollment, several items were noted. Twenty-six percent of SN directors in school districts with less than 30,000 enrollment reported they would be retiring in the next five years compared to 36.9% of SN directors in school districts with 30,000 or greater student enrollment. This suggests a growing need to develop new leaders to replace those SN directors that will be retiring in the near future.

SN directors in both studies had similar agreement levels with operational issues and practices encountered, with the exception of the differences noted earlier for SN directors in school districts with less than 2,799 student enrollment. When the mean agreement ratings for the operational issues and practices faced by SN directors were visually compared from the two studies, it was observed that SN directors in all size school districts rated nine of the same

operational issues and practices within the top ten. This suggests that SN directors in most school districts, regardless of size, face similar operational issues and practices.

SN directors in both studies rated 78% or more of characteristics and/or qualities needed by SN directors to be successful at 3.5 or greater on a 4-point scale. SN directors in both studies rated the same four characteristic and quality statements within the top five for highest mean ratings: “Maintains integrity”, “Accepts responsibility”, “Finds solutions”, and “Leads in an ethically appropriate manner”. These results suggest that characteristics and qualities needed for success by SN directors are similar, regardless of school district size, and leadership is an important attribute for all SN directors.

In conclusion, it appears that SN directors, regardless of district size, are facing similar operational issues. However, SN directors in school districts with less than 2,799 student enrollment may be encountering unique operational issues and practices compared to SN directors in school districts of larger enrollment size. Qualities and characteristics necessary for success and training needed to develop these qualities and characteristics appear to be uniformly important to SN directors across the range of school district sizes, suggesting a universal need for effective leadership skills in SN programs.

Education and Training Implications

Findings from this research suggest the following implications for education and training:

- Education and training programs are needed to assist in the preparation of SN professionals to operate SN programs. These programs should target SN professionals who work on the management team in all school districts. The operational issues and practices related to SN operations, as well as the characteristics and qualities of

directors operating SN programs in school districts identified in this research study, should provide the foundation for these education and training programs.

- Education and training resources targeting SN directors should be available in both print-based and Web-based formats.
- Education and training programs targeting SN directors should be offered as part of a meeting/conference, as a professional development publication/article, or as an independent study (CD ROM or Internet).
- This study demonstrates that SN directors value leadership characteristics and training to develop these characteristics. The characteristics and qualities identified in this study as important to the success of SN directors, as well as whether training is needed to develop these characteristics and/or qualities, should serve as the foundation for developing these education resources and training programs.

Research Implications

Based on the large percentage of SN directors who reported they would be retiring in the next five years (26.2%), there is a need to develop new leaders to replace current SN directors when they retire. To help meet this need, research is needed to determine the following:

- the most optimal prerequisite skills for individuals applying for SN director positions;
- the training and development experiences to best support emerging leaders; and
- if these prerequisite skills, training, and development experiences differ based on the size of the school district position to be filled.

Several significant differences were observed between SN directors in the smaller school districts (less than 2,799) and SN directors in larger school districts. Furthermore, almost one half of SN directors responding to this study (44.9%) were from school districts with less than

2,799 students, and 76% of all school districts enroll less than 3,000 students. This clearly demonstrates that SN directors in the smaller school districts make up a significant amount of all SN directors, yet the operational issues and practices they encounter appear to be somewhat different from the needs of the larger school districts captured in this and previous research. Therefore, further research is needed in school districts with less than 2,799 student enrollment to determine the specific issues and practices encountered by these SN directors. Research is also needed to verify the characteristics and qualities needed for success by these SN directors and identify whether training is needed to develop these characteristics and qualities.

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Item number R-129-08 (GY 05)