

Best Practices for School Nutrition Professionals Serving the Nutritional Needs of Pre-Kindergarten Children in Public Schools

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

ABSTRACT

Purpose

This study identifies best practices for school nutrition professionals serving the nutritional needs of Pre-Kindergarten (PreK) children in public schools.

Methods

The two-phased study followed a best practices research model (BPRM) utilizing the seven practice categories identified from previous PreK research. In Phase I, an expert panel of school professionals (n = 7) identified and confirmed goals and best practice statements under the practice categories: Communication and Training, Nutritious Menus and Meal Experiences, Administrative Support, Encouragement, Mealtime Opportunities, Dining Environment, and Healthy Wellness Practices. The panel provided feedback on the content, wording of goals and best practices, and formatting suggestions to develop a best practice guide. The panel members' comments were then used to revise and pilot the guide. In Phase II, members of a review panel, composed of school professionals (n = 14), were provided the draft guide, evaluation form, and demographic survey to complete a directed review. The panel assessed the efficacy of the guide as a self-assessment tool, and confirmed the placement of best practice statements under related goals and practice categories. Descriptive statistics included means, standard deviations, and frequencies of total responses. Researchers reviewed the data and incorporated suggestions from the review panel to revise and format the guide.

Results

The review panel's evaluation indicated a high level of agreement that the goals and best practices were clearly stated, were measurable and achievable, and were similar to performance standards necessary for serving PreK children. The final version of the best practice guide consisted of seven practice categories, 17 goals, and 97 best practice statements.

Application to Child Nutrition Professionals

The NFSMI best practice guide was formatted into a Web-based, checklist which can be used either as a self-assessment tool to evaluate and monitor the quality of nutrition services in PreK programs or as a guide to plan new PreK programs.

INTRODUCTION

Research indicates that children participating in early education programs have greater academic success in school and later in life. Pre-Kindergarten (PreK) programs committed to improving children's readiness for school have shown significant short-term and long-term effects on children's cognitive growth and development (Denton, 2001; Gormley, Gayer, Philips, & Dawson, 2005; Temple, Reynolds, & Miedel, 2000). During the 2005-2006 school year, 38 states funded PreK initiatives across the U.S. Decision makers in public education are recognizing the benefits of early education for young children and are moving toward providing PreK programs for children in public schools.

Health and safety standards are the basic requirements for children in any living and learning environment. Characteristics of quality PreK programs include provisions and standards to protect children's health and safety; low student-to-teacher ratios and small classes; qualified, well-compensated teachers; appropriate learning curricula; and parent and community involvement (Denton, 2001; Scott-Little, Kagan, & Frelow, 2003). Many PreK programs that seek to improve school readiness beyond basic health and safety standards include comprehensive services that provide at least one meal; vision, hearing, health screening, and/or referrals; parental involvement opportunities; and additional support services. By including these services, PreK programs support children's cognitive, physical, and social development (Shonkoff & Phillips, 2000).

School nutrition (SN) programs are an important part of PreK programs in public schools, providing food and services essential for young children's physical, social and cognitive development. Comprehensive SN programs for PreK not only provide meals to meet the nutritional needs of young children, but also promote healthy eating and lifestyle behaviors essential for growth and development. Therefore, establishing quality standards or best practices for SN services is a critical part of meeting overall PreK program standards (Lord, Wade, & Daugherty, 2005; Shonkoff & Phillips, 2000).

In a previous study, researchers assessed the perceptions, practices, and perceived barriers of SN directors, SN managers, and other school professionals (principals, classroom teachers, and early education directors) serving the nutritional needs of PreK children in public schools (Nettles, Carr, & Johnson, 2006). Research findings suggested that serving the nutritional and developmental needs of PreK children is a more complex issue than just serving meals. Practices identified as essential to serving the nutritional needs of PreK children statistically factored into seven categories: Communication and Training, Nutritious Menus and Meal Experiences, Administrative Support, Encouragement, Mealtime Opportunities, Dining Environment, and Healthy Wellness Practices. Findings also showed that a team-centered approach, effective communication, and the seven practice categories are components necessary in implementing the provisions for quality nutrition services for PreK children.

Nettles et al. (2006) also identified the need to ascertain best practices for SN professionals to implement or assess services for PreK children by focusing on the seven practice categories. Mold and Gregory (2003) described the best practice approach as a systematic process used to identify, describe, and disseminate effective and efficient strategies developed by practicing professionals. Their best practices research model (BPRM) consists of five steps to develop best practices and assess program management. These steps include the development of a best practices conceptual model, defining "best" practices based on program standards and practices, the identification and evaluation of draft best practices as a guide, combining or revising draft best practice guide components, and evaluating the efficacy of the final guide. This model has been used in various disciplines to develop best practices for program success by experts and professionals working in actual practice settings.

SN directors understand the need for program assessment to measure the effectiveness of efforts that affect PreK children's learning and development. However, there are no assessment resources for SN directors to evaluate PreK programs and assist in elevating their overall standards. Therefore, the purpose of this study was to develop and confirm research-based best practices for SN professionals serving the nutritional needs of PreK children in the public school setting. To meet the study's purpose, the following objectives were accomplished:

- Determine goals and best practice statements related to Communication and Training, Administrative Support, Encouragement, Mealtime Opportunities, Dining Environment, Nutritious Menus and Meal Experiences, and Healthy Wellness Practices in PreK programs.
- Compile practice categories, goals, and best practices into a best practice guide that can be used as an implementation resource or assessment tool for SN programs.
- Validate and evaluate the usefulness of the best practice guide.
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METHODOLOGY

To accomplish the research objectives, the BPRM (Mold and Gregory, 2003) was used to guide the two-phased research process for this study. In Phase I, the researchers developed the best practices conceptual model and drafted goals and best practice statements based on the seven practice categories identified in previous research (Nettles, et al., 2006), other research literature, and PreK program standards of practice. An expert panel assembled to reach consensus on the placement of best practice statements under goals and practice categories. Information collected in Phase I of the study was then used to revise and format the draft

best practice guide. In Phase II, a review panel confirmed the placement and formatting of goals and best practices under the seven practice categories and evaluated the efficacy of the guide as a self-assessment tool for SN professionals. The research protocol for this study was approved by the Human Subjects Protection Review Committee at the University of Southern Mississippi.

Phase I

Seven practice categories for addressing PreK nutritional needs (Nettles, et al., 2006), provided the framework for the development of goals and best practice statements as outlined by the steps of the BPRM (Mold and Gregory, 2003). Goals and best practice statements were drafted from research-based literature from various sources, educational resources, and published regulations and standards for young children served through the National School Lunch Program (NSLP) and the Child and Adult Care Food Program (CACFP) (U.S. Department of Agriculture, 1992; Copple & Bredekamp, 2006; National Association for the Education of Young Children Academy for Early Childhood Program Accreditation and Standards, n.d.; National Food Service Management Institute, 2003; Oakley & Carr, 2003; Oakley, Carr, & Phillips, 2008).

Seven SN professionals and school administrators representing four USDA regions were selected to participate on an expert panel. Panel members consisted of SN directors, a school administrator, and a PreK director with experience and expertise in the operations of PreK programs in public school settings. Expert panel members participated in a two-day workgroup session to identify and confirm goals and best practice statements. Panel members engaged in sub-group discussions to assess the context of the goals and best practice statements under the seven practice categories. Once the sub-groups completed their assignments, researchers used consensus building steps for panel members to arrive at agreement on the content, scope, wording, and placement of goals and best practice statements. The panel also provided recommendations on formatting the practice categories, goals, and best practice statements into a self-assessment checklist.

Researchers prepared a draft guide that contained the confirmed seven practice categories, 23 goals, and 142 best practice statements. Each practice category contained a description of the category, one or more goals, and the related best practice statements. A 4-point scale was anchored to the best practice statements to assess the degree to which an SN program was achieving each best practice. The categories in the 4-point scale were 1 (*unsatisfactory*), 2 (*needs improvement*), 3 (*area of strength*), and 4 (*demonstrates excellence*). An additional column (*not applicable*) was provided for responses to best practice statements that did not apply to the SN professional's school and/or SN program. The researchers also developed an evaluation form to evaluate the clarity and efficacy of the goals and best practice statements of the draft guide.

Phase II

State agency directors were asked to recommend SN professionals to participate in the review panel process. Since effective communication and a collaborative team approach with other school professionals also play a major role in PreK programs, the expert panel members were asked to participate in the review and provide names of other professionals in PreK programs. Seventeen school nutrition professionals were emailed an invitation to participate on the review panel. The email also explained the research study and the purpose of the review process. Fourteen SN directors, state agency staff, and PreK personnel representing six USDA regions agreed to participate in the review process.

Review panel members were mailed a review packet that contained a cover letter, draft PreK best practice guide with instructions, evaluation form, demographic survey, and a self-addressed, postage-paid return envelope. The cover letter included the purpose of the study and an invitation to participate in the review process. It also assured confidentiality of responses and provided the researchers' contact information for questions and concerns. No identifying codes were placed on the draft guide, evaluation form, or demographic survey, thus preserving the anonymity of the review panel. Reviewers were instructed to use the draft PreK best practice guide to assess their school and SN program and complete the evaluation form on the goals and best practice statements in the seven practice categories. For each practice category, reviewers indicated their agreement with five evaluation questions using a scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). Additional space on the evaluation form was provided for review panel members to offer comments and suggestions for deleting, modifying, or combining goals and best practice statements to improve the best practice guide.

Data Analysis

The evaluation questionnaire and demographic survey were analyzed using the statistical package SPSS Version 15.0 for Windows. Descriptive statistics included means, standard deviations, and frequencies of total responses.

RESULTS AND DISCUSSION

Phase I

An expert panel convened to review draft goals and best practices statements for the seven practice categories following the steps outlined by the BPRM (Mold & Gregory, 2003). Of the seven school professionals invited to participate in the expert panel session, all seven completed the pre-meeting assignments and attended the expert panel session (100% participation rate). Five of the expert panel members were SN directors (71.4%), one a school administrator (14.3%), and one was a PreK director (14.3%). During the expert panel session, expert panel members evaluated draft goals and then reached consensus as a group to keep, modify, combine, or delete draft goals. Expert panel members were then asked to place goals under the appropriate practice category. The same process was used in the evaluation of the draft best practice statements. The expert panel session time expired before reaching consensus on all best practice statements. Expert panel session results were summarized and final consensus on the placement and formatting of practice categories, goals, and best practice statements occurred via email correspondence.

Six of the seven (85%) expert panel members completed the consensus building steps to identify and confirm the placement of best practice statements under related goals and practice categories (Table 1). The recommendations from the expert panel resulted in 23 goals and 141 best practice statements. The revised draft list of practice categories, goals, and best practices were formatted into a self-assessment checklist to be used by SN professionals.

Table 1. PreK Best Practice Guide by Practice Category, Goals, and Best Practice Statements

| Best Practice Categories | Expert Panel Consensus | Review Panel Consensus |
|-----------------------------------|-------------------------------|-------------------------------|
| Communication and Training | | |
| Goals | 7 | 6 |
| Best Practice Statements | 47 | 41 |
| Administrative Support | | |
| Goals | 1 | 2 |
| Best Practice Statements | 10 | 9 |
| Encouragement | | |
| Goals | 3 | 2 |
| Best Practice Statements | 10 | 7 |
| Mealtime Opportunities | | |
| Goals | 1 | 1 |

| | | |
|--|----|----|
| Best Practice Statements | 10 | 6 |
| Dining Environment | | |
| Goals | 2 | 2 |
| Best Practice Statements | 19 | 9 |
| Nutritious Meals and Meal Experiences | | |
| Goals | 5 | 2 |
| Best Practice Statements | 29 | 11 |
| Healthy Wellness Practices | | |
| Goals | 4 | 2 |
| Best Practice Statements | 16 | 14 |

Phase II

Seventeen SN professionals were invited to participate in the review panel evaluation process to confirm the goals and best practice statements under the practice categories. Of those invited to participate, fourteen (82%) completed the self-assessment checklist, evaluation form, and demographic survey. Review panel members represented six of the seven USDA regions. Eight reviewers were SN directors (57%) and two were state agency representatives (14%). Four reviewers (29%) referenced their job title as other PreK personnel who worked as consultants/monitors for Head Start and PreK in public schools. Eight of the panel members (57%) had worked with SN programs for eleven years or more and 86% of the reviewers had at least one certification or credential associated with nutrition, education or other certification in medicine. Seven review panel members (57%) indicated that their schools served PreK through 12th grade. The majority of review panel members indicated that their school districts have PreK programs in three or more schools (86%), serving more than 100 PreK children (64%) who are ages three and four (79%). Nine members (64%) of the review panel reported serving two meals and a snack under the NSLP to PreK children.

Review panel members were instructed to use the PreK best practice guide to assess their school and SN program and complete an evaluation form on the goals and best practice statements in the seven practice categories. For each practice category, review panel members indicated their level of agreement with five evaluation questions using a scale ranging from 1 (strongly disagree) to 4 (strongly agree). All seven practice categories had mean agreement ratings of 3.0 or greater for the evaluation questions indicating good face validity (Table 2). These ratings indicated a high level of agreement that the goals and best practices were clearly stated, were measurable and achievable, and were similar to performance standards necessary for PreK children. Review panel members also provided comments for deleting, modifying, or combining goals and best practice statements to improve the best practice guide (Table 1). Researchers reviewed the comments and incorporated suggestions from the review panel to finalize the best practice guide. The final version of the best practice guide consisted of seven practice categories, 17 goals, and 97 best practice statements.

Table 2. Mean Agreement Ratings and Standard Deviations of the Review Panels' (n = 14) Evaluation of Goals and Best Practice Statements

| | Level of Agreement ^a | | | | | | | |
|---|---------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--|
| | Mean | | | | | | | |
| | <i>(Standard Deviation)</i> | | | | | | | |
| | Encouragement | | | | | | | |
| Goals and best practices under this practice category are clearly stated. | 3.4 (0.5) | 3.3 (0.9) | 3.4 (0.5) | 3.5 (0.5) | 3.4 (0.5) | 3.3 (0.9) | 3.4 (0.5) | |
| All of the best practices under the goals and practice category are measurable. | 3.1 (0.5) | 3.1 (0.3) | 3.0 (0.0) | 3.1 (0.5) | 3.1 (0.5) | 3.1 (0.5) | 3.0 (0.0) | |
| The best practices listed under the goals identify performance standards needed to serve PreK children. | 3.1 (0.5) | 3.2 (0.4) | 3.1 (0.5) | 3.1 (0.3) | 3.1 (0.3) | 3.1 (0.5) | 3.1 (0.5) | |
| The best practices listed will help achieve the goals under this practice category. | 3.3 (0.5) | 3.1 (0.5) | 3.4 (0.5) | 3.3 (0.5) | 3.1 (0.5) | 3.2 (0.4) | 3.1 (0.5) | |
| All of the best practices listed are applicable to meet the needs of PreK children in public schools. | 3.1 (0.3) | 3.1 (0.4) | 3.3 (0.9) | 3.0 (0.0) | 3.2 (0.4) | 3.2 (0.4) | 3.1 (0.5) | |

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

The first practice category, “Communication and Training,” includes six goals and 41 best practice statements. Goals and best practices in this category relate to communication and training issues associated with child development, nutrition education, and collaboration as necessary elements for serving the educational and social needs of PreK children. These goals and best practices also reflect specific roles and duties of school

nutrition staff, as team members, who collaborate with PreK teachers, principals, and early education directors to provide comprehensive services to PreK children. “Administrative Support” is the second practice category and consists of two goals and nine best practice statements that focus on administrators’ support of the nutrition program as a fundamental part of the PreK team. “Encouragement” is the third practice category and contains two goals and seven best practice statements that relate to the motivational support among PreK partners to promote nutrition education to PreK children, parents, and the community. The fourth practice category, “Mealtime Opportunities,” consists of one goal and six best practice statements related to the many possibilities for learning and interaction with PreK children during mealtime. “Dining Environment” is the fifth practice category and contains two goals and nine best practice statements related to providing a positive mealtime experience that is age and developmentally appropriate for PreK children. “Nutritious Menus and Meal Experiences” is the sixth practice category containing two goals and eleven best practice statements that focus on PreK programs providing food and meal experiences to meet PreK children’s age-specific, developmental, and social needs. Lastly, “Healthy Wellness Practices” contains two goals and 14 best practice statements that encompass SN policies and procedures, as well as partnerships with parents to promote health and wellness practices for PreK children.

CONCLUSIONS AND APPLICATIONS

The purpose of this research project was to identify and confirm the best practices related to serving the nutritional needs of PreK children in the public school setting, utilizing the seven practice categories identified in previous NFSMI research. Two panels comprised of SN professionals, state agency staff, school administrators, and early education directors participated in developing and confirming the 17 goals and 97 best practice statements.

The number of school districts offering PreK classes is increasing; therefore, SN programs should be prepared to serve the needs of this new customer. Previous research suggested that serving the nutritional and developmental needs of PreK children is a more wide-ranging and complex undertaking than just serving meals and that a team approach should be used to fully meet the needs of the PreK child (Nettles et al., 2006). This is the first study to build on these findings and enumerate the best practices and quality indicators to assist SN professionals in serving the needs of children in PreK programs.

Utilizing the recommendations of the expert panel, the practice categories, goals, and best practice statements were formatted into a Web-based, self-assessment checklist for SN professionals and is available at: <http://www.nfsmi.org/documentLibraryFiles/PDF/20080630025752.pdf> (Lofton & Nettles, 2008). *The NFSMI Best Practice Guide for School Nutritional Professionals Serving the Nutritional Needs of Pre-Kindergarten Children* follows a user-friendly format. Listed within each of the seven practice categories are the goals and best practice statements. Each statement may be assessed following a 4-point scale of 1 (unsatisfactory) to 4 (demonstrates excellence) with not applicable as an option to select should the best practice statement not address specific program needs (Figure 1).

Figure 1. The NFSMI Best Practice Guide: Practice Category, Goal, and Best Practices/Quality Indicator Statements (Excerpt Only)

COMMUNICATION AND TRAINING

In this section, you will consider Goals and Best Practices associated with Communication and Training issues related to child development, nutrition education, and collaboration with school staff as necessary elements for serving the educational and social needs of PreK children. Goals and best practices under communication and training also reflect specific roles and duties of school nutrition staff, as team members, who collaborate with PreK teachers, principals, and early education directors to provide comprehensive services to PreK children.

COMMUNICATION AND TRAINING

GOAL 1. School staff is trained in the area of child development to meet the needs of Pre-Kindergarten (PreK) children.

| Best Practices/Quality Indicators | Unsatisfactory | Needs Improvement | Area of Strength | Demonstrates Excellence | Not Applicable |
|---|----------------|-------------------|------------------|-------------------------|----------------|
| 1. The school nutrition staff receives training on appropriate ways to communicate, interact, be sensitive and responsive to differing abilities and temperaments of PreK children. | 1 | 2 | 3 | 4 | NA |
| 2. School nutrition staff receives training on social, cognitive, and other development issues in PreK children. | 1 | 2 | 3 | 4 | NA |
| 3. The school nutrition director provides training/information to the school nutrition staff on menu and nutrition needs of PreK children. | 1 | 2 | 3 | 4 | NA |
| 4. The school nutrition staff is trained in customer service strategies appropriate for PreK children. | 1 | 2 | 3 | 4 | NA |
| 5. Nutrition concerns about PreK children with special needs are addressed in a timely manner. | 1 | 2 | 3 | 4 | NA |
| 6. The PreK teachers and/or members of the school nutrition staff receive training in nutrition education activities to promote healthy eating habits. | 1 | 2 | 3 | 4 | NA |
| 7. PreK teachers and school nutrition staff are trained in the importance of good nutrition to educational preparedness of PreK children. | 1 | 2 | 3 | 4 | NA |

The guide can be used as a self-assessment tool to evaluate and monitor the quality of nutrition services in PreK programs or as a guide to plan new PreK programs. The following are suggestions and implications for using the guide:

- The guide could be used as a checklist to identify practices crucial for implementing PreK programs in public schools. The checklist could be used to identify specific roles of stakeholders and resources necessary for planning and implementing potential PreK programs in public schools.
- SN professionals could use the guide as a checklist to benchmark program effectiveness and identify school nutrition staff training needs specific to the PreK program.
- The guide could be used to identify effective communication strategies to disseminate information about menus, nutrition education, and feeding issues and concerns with school staff, PreK children, parents, and the community.

- As an evaluation tool, the guide could be used to examine the effectiveness and efficiency of current best practices and strategies to meet the nutritional needs of PreK children.
- SN directors and school administrators may use the guide to report successful accomplishments of their PreK program and set goals for continuous quality improvement.
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The information provided in this manuscript is the result of independent research produced by NFSMI and is not necessarily in accordance with U.S. Department of Agriculture Food and Nutrition Service (FNS) policy. FNS is the federal agency responsible for all federal domestic child nutrition programs including the National School Lunch Program, the Child and Adult Care Food Program, and the Summer Food Service Program. Individuals are encouraged to contact their local child nutrition program sponsor and/or their Child Nutrition State Agency should there appear to be a conflict with the information contained herein, and any state or federal policy that governs the associated Child Nutrition Program. For more information on the federal Child Nutrition Programs please visit www.fns.usda.gov/cnd.

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