

## **Recess Before Lunch in Elementary Schools: Development of a Best Practice Checklist**

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

### **ABSTRACT**

#### **Purpose/Objectives**

The purpose of this study was to determine the best practices (quality indicators) related to recess placement before lunch in elementary schools; compile a best practices checklist that can be used as an assessment tool for school nutrition programs; and validate and evaluate the usefulness of the best practices checklist.

#### **Methods**

This study was conducted in two phases. In phase I, researchers drafted 107 best practice statements from previous research, research literature, and standards of practice for the National School Lunch Program. These statements were evaluated in a two-day workgroup meeting with an expert panel of school nutrition directors, principals, and state agency personnel representing four USDA regions. Three of the five research-based practice categories identified in previous research (personnel support/workload, logistics, and scheduling) were confirmed by the work group, as well as 3 goals, 15 best practice statements, and 18 considerations and professional reminder practice statements. In phase II, the draft checklist was further evaluated and pilot tested via electronic mail by a national review panel of school nutrition directors and state agency personnel from six USDA regions.

#### **Results**

Based on the review panel's comments and suggestions, the recess before lunch (RBL) best practice checklist was revised and formatted as a Web-based, self-assessment tool. The *NFSMI Best Practice Checklist for School Nutrition Professionals Implementing or Assessing Recess Before Lunch in Elementary Schools* has a user-friendly format designed around three practice categories, four goals, and 39 best practices and standard supporting practices.

#### **Applications to Child Nutrition Professionals**

The *RBL Best Practice Checklist* will assist school nutrition professionals and stakeholders in implementing services for a new RBL program or serve as an assessment tool for evaluating an existing RBL program in elementary schools.

### **INTRODUCTION**

School nutrition professionals and school administrators have been exploring innovative ways of creating a healthful wellness environment without the need for additional resources. Recess and lunch are important components of an elementary school's daily schedule and recess before lunch (RBL) can be an important part of a school's or district's wellness policy. Scheduling RBL can allow students an opportunity for physical activity prior to lunch and studies have shown that children consume more nutrients and waste less food when recess is scheduled before lunch.

Getlinger and colleagues (1996) found that plate waste decreased from 34.9% to 24.3% when recess was scheduled before lunch rather than after lunch in elementary school grades 1-3. Other studies have shown similar results. Bergman, Buerger, Englund & Femrite, (2004) found that students with recess scheduled before lunch consumed significantly more food and nutrients than those with recess after lunch. In addition, food waste decreased from 40.1% to 27.2% when recess was scheduled before lunch. In 2002-2003, the Montana School Nutrition Program developed a pilot project to evaluate RBL programs in four Montana schools (The Montana Office of Public Instruction, 2003). Results showed that the average amount of food and beverage waste per student decreased after RBL program implementation.

It is also important to consider the potential behavioral effects of scheduling RBL. A pilot study in one Hawaii elementary school found that changing to a RBL schedule resulted in significant decreases in lunch line wait and discipline referrals (Tanaka, Richards, Takeuchi, Otani, & Maddock, 2005). The Montana School Nutrition Program pilot project described above also surveyed administrators, teachers, and school nutrition personnel in the schools with RBL programs (The Montana Office of Public Instruction, 2003). These school professionals reported that RBL was associated with a calm and quiet cafeteria environment that was conducive to eating; a decrease in disciplinary problems at recess, in the cafeteria, and in the classroom; and children who were calmer and ready to learn in the classroom.

Researchers agree that recess is an important part of the school day. Beighle, Morgan, Le Masurier, & Pangrazi (2006) examined physical activity during recess and found that third-, fourth-, and fifth-grade students spent most of their recess time engaged in physical activity. Pellegrini (2005) has studied recess and its beneficial role in education and development of children. He found evidence that recess time has eroded over the last 15 years. He stated that schools need to “systematically study their recess policies”. Pellegrini & Bohn (2005) concluded that recess is an important opportunity for children to interact with peers and develop social skills. Barros, Silver, & Stein (2009) analyzed data from the Early Childhood Longitudinal Study and found that teachers’ ratings of classroom behavior were better for third graders who received recess than those who didn’t. Kahan (2008) reviewed recess literature and provided 13 recommendations for providing, organizing, and coordinating recess, including providing daily recess periods regardless of grade level and not contingent on classroom events or academic standing.

Although previous research has documented the benefits associated with scheduling RBL, many schools have not adopted this recess schedule. The School Health Policies and Programs 2006 study (Lee, Burgeson, Fulton, & Spain, 2007) found that 96.8% of elementary schools provided recess during the school day for at least one grade. However, only 10.4% of elementary schools provided recess immediately before lunch for students in all grades.

The National Food Service Management Institute, Applied Research Division (NFSMI, ARD) has conducted several studies focused on recess placement. In 2005, NFSMI, ARD conducted focus groups with principals, school nutrition directors, teachers, and parents in four states to discuss perceived barriers to scheduling RBL (Rainville, Wolf, & Carr, 2006). Barriers commonly identified by school professionals included preservation of instructional time, logistical concerns such as addressing hand washing and winter clothing issues, and scheduling concerns.

In 2007, the NFSMI, ARD followed up with eight nationwide focus group discussions on recess placement. The information gained from the focus group discussions was used to develop a survey related to recess placement. The survey was mailed to 2,100 school nutrition directors, principals/assistant principals, and teachers. This study identified five major issues to consider when determining how recess should be scheduled in relation to lunch in elementary schools: personnel support/workload, logistics, scheduling, child feeding implications, and behavior (Bounds & Nettles, 2008).

The objectives of this study were to determine the best practices or quality indicators related to the practice categories identified in previous research; to compile a best practice checklist that can be used as a guide or an assessment tool for school professionals in elementary schools; and to validate and evaluate the usefulness of the best practice checklist.

## METHODOLOGY

The protocol for this study was approved by the Eastern Michigan University Human Subjects Review Committee and The University of Southern Mississippi Institutional Review Board. A best practice research model described by Mold & Gregory (2003) was used to guide the research process. Mold & Gregory described a best practice research model that included five steps to identify “best” practices and methods based on real-life practice settings and program management approaches. The researchers reviewed previous research and reports related to implementing and sustaining RBL programs in elementary schools. The initial draft of the RBL best practice checklist document consisted of 107 best practice (quality indicator) statements based on the five practice categories.

This research study was conducted in two phases. In phase I, an expert panel of school nutrition directors, principals, and state agency personnel convened to evaluate and confirm best practice statements and supporting goals within five practice categories identified from previous research. Comments and suggestions from the expert panel were used to draft the best practice checklist to be evaluated by a review panel in phase II of this study. In phase II, the best practice checklist draft was then sent to a review panel of school nutrition directors and state agency personnel to evaluate the content and usefulness of the checklist.

### **Expert Panel**

State agency personnel who had assisted with a previous recess placement study were contacted via telephone and electronic mail and asked to provide contact information for state agency representatives and school personnel working in school districts with exemplary RBL programs in elementary schools. Potential participants were e-mailed information about the research study and invited to attend a two-day work group session to identify and confirm goals and best practices for RBL programs. All but one who were contacted (n=8) agreed to participate. The two-day work group session was attended by an expert panel of school nutrition directors (n=3), principals (n=2), and state agency personnel (n=2) from six states in four USDA regions. They completed a demographic questionnaire; defined RBL; reviewed the wording of each draft best practice statement; sorted best practice statements into the practice categories and identified additional best practice statements; and identified goals for the best practice statements under each practice category. All seven members of the expert panel actively participated and there was consensus on the practice categories and statements that would be included in the RBL best practice checklist draft.

The expert panel was also asked to review examples of self-assessment forms and checklists and discuss various Web-based formats that could be used to format the RBL best practice checklist. They also provided comments and suggestions for formatting the RBL best practice checklist into a user-friendly resource for school nutrition professionals.

After the two-day work group meeting, researchers summarized the outcome of the expert panel session into the draft RBL best practice checklist. Evaluation questions were developed and included as part of the summary to assess if expert panel participants agreed with the outcome and placement of practice categories, goals, best practice statements, and standard supporting practices as noted by the researchers. The summary and evaluation form was e-mailed to the seven participants and they were asked to review the expert panel summary, respond to the evaluation questions, and provide additional comments and suggestions for the RBL best practice checklist. The researchers compiled all of the evaluation question responses and comments to revise the RBL best practice checklist and evaluation questionnaire to be used for the national review panel in the next phase of this research study.

### **Review Panel**

In phase II of the research study, state agency directors who had assisted with contacts in a previous recess placement study (n=29) were asked to submit names and contact information for one or two school nutrition directors and a state agency staff member who they believed would be willing to serve as a reviewer of the best practice checklist. The researchers e-mailed potential review panel participants (n=48) in six USDA regions a description of the checklist and an invitation

to participate on the review panel. The e-mail message also contained attachments of the draft RBL best practice checklist, the review questionnaire, and a demographic survey. The review questionnaire was a Word document with 6 closed questions and 3 open-ended questions for each of the three practice categories and 4 open-ended questions on format. The demographic survey contained 11 closed questions. Review panel participants were asked to pilot test the checklist and complete the review questionnaire and demographic survey, if they agreed to participate on the review panel, two weeks from receipt of the e-mail. The documents were returned as e-mail attachments and through fax. A follow-up e-mail message was sent and telephone calls were made to all review panel participants encouraging them to complete and return the requested documents.

### Data Analysis

The expert panel demographic survey, review panel evaluation questionnaire, and review panel 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

Demographic characteristics of expert panel participants (n=7) are presented in Table 1. The participants were experienced professionals with an average of 9.2 years of experience in their current position and 18.3 years of experience in school nutrition/education. Expert panel participants were from districts with enrollments of 1,200 to 37,966 students; the number of schools with RBL ranged from 1-20. Two of the seven participants were state agency professionals from states that have been leaders in RBL.

Table 1. *Demographic Survey of Expert Panel Participants in Phase I*

<b>USDA Region (n=7)</b>	<b>Frequency</b>
Mountain Plains	3
Western	2
Northeast	1
Southwest	1
<b>Years in Current Position (n=7)</b>	<b>Mean (Range)</b>
	9.2 (2.5-23)
<b>Years in School Nutrition/Education (n=7)</b>	<b>Mean (Range)</b>
	18.3 (10-39)
<b>District Characteristics (n=5)</b>	<b>Mean (Range)</b>
Enrollment	17,543 (1,200-37,966)
Number of Elementary Schools	17 (2-33)
Number of Schools with RBL	7.6 (1-20)
Number of Middle Schools	5 (1-11)

Number of High Schools	3.25 / 1-5
Percentage of students eligible for free lunch	33.68% (11%-56%)
Percentage of students eligible for reduced price lunch	6.6% (2%-13%)

The expert panel participants began with discussions of the five practice categories (personnel support and workload, logistics, scheduling, child feeding implications, and behavior), identified in previous NFSMI, ARD research (Bounds & Nettles, 2008). Three of the five practice categories (personnel support/workload, logistics, and scheduling) formed the framework for grouping the best practice statements, while statements associated with child feeding implications and behavior were subsumed within the three categories. The expert panel recommended “suggestions” and “professional reminders” (practices included as necessary reminders of important actions that could successfully influence an RBL program).

The expert panel participants categorized statements and discussed the format of the RBL resource. They recommended that the RBL resource be developed using a checklist format. Expert panel participants also recommended an assessment scale to either evaluate practices at the implementation stage of an RBL program or assess practices of an existing RBL program.

The results of the expert panel workgroup were summarized; all seven of the expert panel participants (100%) reviewed the summary, completed evaluation questions, and provided additional comments and suggestions for the RBL best practice checklist. Comments and suggestions provided from the post-session expert panel review were incorporated into the next draft of the RBL best practice checklist to be reviewed by a national review panel.

## Phase II

The draft RBL best practice checklist contained an RBL research overview, a definition of RBL terms, the three practice categories, three goals, fifteen best practice statements, four suggestion practice statements, fourteen professional reminder practice statements, and a reference section. Each practice category contained a description of the category, one goal, and the related best practice, suggestion, and professional reminder practice statements. Each practice statement was anchored on a three-part checklist scale to assess practices in the implementation stage for new RBL programs or assess practices within existing RBL programs. A section for comments was added at the end of each practice category for responses to best practice, suggestions, and professional reminder practice statements that were not addressed in the best practice checklist.

School nutrition directors and state agency professionals (n= 31) from six USDA regions responded and completed the review questionnaire (64.6% response rate). One of the review panel participants was also part of the Phase I expert panel. Of the review panel participants, 28 of the 31 reviewers completed the demographic questionnaire. The demographic results are in Table 2. Ninety-three percent of the review panel participants were school nutrition directors or state agency professionals and 70% of the reviewers had 11 or more years of work experience in school nutrition. School nutrition directors and a manager were from districts with 1 to 22 elementary schools; a student enrollment range of 1,000 to 37,000 students; and 0 to 20 schools offering RBL programs. The districts had varying stages of RBL implementation and most had not assessed RBL in the district.

Table 2. *Demographic Information of National Review Panel Participants in Phase II*

<b>Job Title (n=28)</b>	<b>Frequency</b>	<b>%</b>
School Nutrition Director	18	64.3
State Agency Professional	8	28.5

School Nutrition Manager	1	3.6
School Nutrition Consultant	1	3.6
<b>Work Experience in School Nutrition (n=27)</b>	<b>Frequency</b>	<b>%</b>
Less than one year	1	3.7
1 to 5 years	4	14.8
6 to 10 years	3	11.1
11 to 15 years	7	25.9
16 to 20 years	7	25.9
More than 20 years	5	18.5
<b>Certification/Credential Status (check all that apply)</b>	<b>Frequency</b>	<b>%<sup>a</sup></b>
Not certified	4	14.3
State Department of Education Certification	5	17.9
School Nutrition Association Certification	11	39.3
School Nutrition Specialist Credential	12	42.9
Registered Dietitian	11	39.3
Licensed Dietitian	9	32.1
Other	2	7.1
<b>Highest Level of Education (n=27)</b>	<b>Frequency</b>	<b>%</b>
High School Diploma or GED	1	3.7
Associates Degree	1	3.7
Bachelor's Degree	7	25.9
Some Graduate Credits beyond Bachelor's Degree	6	22.2
Master's Degree	6	22.2
Some Graduate Credits beyond Master's Degree	6	22.2
<b>USDA Region (n=28)</b>	<b>Frequency</b>	<b>%</b>
Southeast	8	28.6

Midwest	8	28.6
Mountain Plains	5	17.8
Western	4	14.3
Southwest	2	7.1
Northeast	1	3.6
Mid-Atlantic	0	0.0

<sup>a</sup>Total exceeds 100% because participants could select more than one response

Twenty-five of the 31 review panel participants evaluated the goals and best practice statements within the three categories. Table 3 contains the mean scores for the review evaluation statements. All mean scores were between 3.29 and 3.56, which indicated agreement with the goals and best practices.

Table 3. Mean Scores ( $\pm$  Standard Deviation) for National Review of RBL Best Practice Checklist Draft (n=25)

<b>Evaluation Statements</b>	<b>Personnel Support and Workload<sup>a</sup></b>	<b>Logistics<sup>a</sup></b>	<b>Scheduling<sup>a</sup></b>
	3.50 $\pm$ .72	3.56 $\pm$ .71	3.54 $\pm$ .78
	3.32 $\pm$ .69	3.33 $\pm$ .82	3.36 $\pm$ .91
The best practices listed under the goal identify performance standards needed to implement RBL.	3.29 $\pm$ .69	3.50 $\pm$ .72	3.41 $\pm$ .72
The best practices listed under the goal identify performance standards needed to assess RBL.	3.29 $\pm$ .69	3.44 $\pm$ .77	3.55 $\pm$ .74
The best practices will help achieve the goal under this practice category.	3.46 $\pm$ .78	3.44 $\pm$ .71	3.46 $\pm$ .78
All of the best practices listed are applicable to RBL.	3.50 $\pm$ .72	3.48 $\pm$ .77	3.46 $\pm$ .78

a4=Strongly Agree, 3=Agree, 2= Disagree, 1=Strongly Disagree

Review panel participants also gave suggestions for revisions for listed best practice statements; provided additional best practice statements and goals; and provided comments on the suggestions and professional reminder statements. Upon review of all comments and suggestions to revise the RBL best practice checklist, several revisions were made. First the 3-part assessment scale was

modified to provide clarity for assessment of each practice statement as: not addressed, partially addressed, and fully addressed. Second, the researchers combined the suggestions and professional reminder practices into one practice section titled, Standard Supporting Practices, as all of these practices were important actions that could successfully influence an RBL program. Third, review panel participants provided comments and suggestions for formatting the appearance and the introduction of the RBL best practice checklist to make it an easy-to use, Web-based resource with references and resources for school professionals. The following definitions are a sample from the definitions included in the checklist.

Practice Categories – Research-based categories (Personnel Support and Workload, Logistics, and Scheduling) influencing RBL identified in a previous NFSMI study

Best Practices – Measurable practices that define what is achievable, effective, and efficient strategies for school nutrition professionals desiring superior performance

Goals – Broad objectives that provide the context for what is to be accomplished under each practice category

Standard Supporting Practices – School nutrition program practices that contribute to the operation of the school nutrition program and set the foundation for a successful RBL

## CONCLUSIONS AND APPLICATIONS

The purpose of this research study was to identify and confirm best practice/quality indicators for implementing RBL programs or assessing existing RBL programs in elementary schools. Two panels of experts comprised of state agency representatives and school professionals participated in developing and confirming the four goals and 39 best practices and standard supporting practices for the RBL best practice checklist. It is possible that the outcomes of this study would have differed if different expert panel participants or review panel participants were involved.

The *NFSMI Best Practice Checklist for School Nutrition Professionals Implementing or Assessing Recess Before Lunch in Elementary Schools* (<http://nfsmi-web01.nfsmi.olemiss.edu/ResourceOverview.aspx?ID=302>) follows a user-friendly format that contributes to the achievement of four goals listed under the three research-based practice categories. The three practice categories are Personnel Support and Workload, Logistics and Scheduling. It is recommended that users review each statement and determine whether it is addressed or not. Additional space is provided for the user to include statements that are specific to the RBL program being implemented or assessed and comments/action steps.

The *NFSMI Best Practice Checklist for School Nutrition Professionals Implementing or Assessing Recess Before Lunch in Elementary Schools (RBL Best Practice Checklist)* will assist school nutrition professionals and stakeholders in implementing services for a new RBL program or serve as an assessment tool for evaluating an existing RBL program in elementary schools. Figure 1 contains an excerpt from the RBL Best Practice Checklist.



PERSONNEL SUPPORT AND WORKLOAD			
STANDARD SUPPORTING PRACTICES	NOT ADDRESSED	PARTIALLY ADDRESSED	FULLY ADDRESSED
Implementation of RBL includes pilot testing procedures to address issues and make adjustments related to student feeding implications and the cafeteria environment.			
An adequate period of time is allotted for pilot testing, implementing, assessing, and making schedule changes and other adjustments to RBL.			
SN directors and managers assess their level of productivity for meal service to ensure service to students is on time and efficient.			
SN staff communicates with school staff and students with a positive attitude during the implementation of RBL.			
SN staff cooperates with members of the RBL team to resolve issues related to providing meals to students and the cafeteria environment.			
SN staff and school staff assist with the supervision of the recess and lunch periods.			

Figure 1. Excerpt from NFSMI Best Practice Checklist for School Nutrition Professionals Implementing or Assessing Recess Before Lunch in Elementary Schools

The following are suggestions and implications for using the *RBL Best Practice Checklist*:

- The benefits of RBL listed in the introduction section of the *RBL Best Practice Checklist* could be used to promote RBL by school professionals such as school nutrition directors, managers, and staff, superintendents, principals, teachers, school nurses, and other stakeholders.
- Additional resources that could assist with implementation and assessment of RBL programs are provided in the reference list at the end of the *RBL Best Practice Checklist*.
- The *RBL Best Practice Checklist* can be used to identify school nutrition program standards and school practices needed for successful RBL programs and to evaluate the role and contributions of the school nutrition program as a component of RBL.
- The *RBL Best Practice Checklist* can be used to identify supportive roles for school nutrition professionals and specific roles for stakeholders in planning, implementing, or assessing RBL policies and practices in elementary schools.
- The *RBL Best Practice Checklist* can be used to establish goals for continuous quality improvement.

School personnel in this study and other recent studies have reported positive outcomes for students who have RBL. Additional studies that objectively document student outcomes with RBL, including student attentiveness in class and student health and behavior, would serve as further evidence of the effects of RBL. In addition, a study of school nutrition personnel who have used the *NFSMI Best Practice Checklist* to implement or assess RBL programs would be valuable to find out if the Checklist has assisted in implementation or assessment of RBL programs.

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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](http://www.fns.usda.gov/cnd).

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