

Selecting Foods of Children's Cultural Backgrounds for a Preschool Menu: A Practical Solution

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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

Rapidly growing racial and ethnic diversity in the United States has profound implications for foodservice and nutrition management in the nation's schools. Multicultural awareness among educators fosters appreciation and respect for the diverse eating habits among children and their families, thereby expanding learning experiences and nutrition services for children. Government and professional organizations recommend that all grade levels, including preschool, include culturally relevant school food programs. The purpose of this study was to explore practical ways to select and incorporate foods that reflect cultural backgrounds of children enrolled in a preschool located in a Midwestern university town.

Methods

A food committee composed of parents and staff members was established to oversee this project, and children participated in the process. Eighteen recipes, submitted by parents, were pre-screened by the food committee for suitability for service to children. In an effort to improve nutritional composition, some modifications were made to several recipes to reduce fat, cholesterol, and sodium content. Nine recipes, including three main dishes, two side dishes, and four desserts, representing seven different ethnic backgrounds, were recommended for inclusion in the menu through a taste-testing evaluation. Two recipes were adopted in the menu immediately, and the rest of the recipes were placed in the recipe file of the Child Development Laboratories (CDL) at Southern Illinois University at Carbondale. It was indicated that flavor influenced the acceptance of a dish more than appearance.

Applications to Child Nutrition Professional

Through this project, children and staff were introduced to various unfamiliar ethnic dishes, and the pool of recipes for menu planning was expanded. At the same time, operational challenges in adopting new menu items, such as the limited skills of the kitchen staff and procuring unfamiliar ingredients, were identified. The strong commitment of management to diversifying the food program was found to be an important factor for the continued success of this approach.

INTRODUCTION

Diverse food cultures and habits of Americans make eating an interesting and enjoyable learning experience for children (Endres, 1994). Early and frequent exposure to a variety of foods is likely to encourage healthy eating habits throughout life. As Birch (1987) has demonstrated, the frequency of children's exposure to food is strongly related to their taste preferences. A recent study reported that in 1997, 12.4 million of the 19.6 million American children under 5 years of

age were enrolled in some form of regular childcare arrangement during a typical week (Smith, 2002). It is estimated that there were more than 500,000 daycare provider sites in 2000. These sites include family childcare providers and preschool facilities sponsored by state and federal government agencies, churches, hospitals, employer programs, military bases, colleges and universities, and community service organizations (Marketdata Enterprises, 2001).

Traditionally, children were primarily influenced by their families. However, today's parents tend to be less reliable food providers than in the past (Achterberg, 1988; Satter, 1987) and childcare centers and preschool programs have assumed increasing responsibility for the provision of food. Caregivers and parents now share responsibility for forming positive feelings about food and promoting healthful eating practices in young children.

The National Association for the Education of Young Children (NAEYC) recommends that childcare centers serve foods that reflect children's backgrounds (NAEYC, 1997). As a goal for school and childcare foodservice professionals, the U.S. Department of Agriculture (USDA) Child Nutrition Programs encourages planning and preparing healthy meals that appeal to the ethnic and cultural tastes of children (Food and Nutrition Services, 2003).

In a recently announced joint position paper entitled, *Nutrition services: An essential component of comprehensive school health programs*, the American Dietetic Association (ADA), the Society for Nutrition Education (SNE), and the American School Food Service Association (ASFSA) provide guidelines for culturally relevant programs:

“Students are more likely to select and eat school meals when foods meet students' taste and cultural preferences and are served in a supportive, comfortable, attractive, and social environment. School meals provide an opportunity to reflect and celebrate ethnic communities through preparation techniques and use of food products. Meals may be marketed in the classroom and related to the core curriculum; marketed in the cafeteria with signage and samples; and involve families through menus, take-home newsletters, invitations to family meals at school and at presentations at parent organizations” (ADA, 2003).

It is suggested that the use of ethnic food should be part of a child's environment as it extends children's understanding and appreciation of their own world and that of others (Wardle, 1991). Multicultural educators warn, however, about the tendency for well-intentioned programs to adopt a tourist approach that emphasizes exotic differences between cultures (Derman-Sparks, 1989). A more meaningful approach is the sharing of cultural experiences within the daily life of the classroom in ways that children can comprehend.

The goal of this study is to explore a practical way of expanding an existing menu to reflect the cultural diversity of the children enrolled in a preschool. Specific objectives were to 1) collect from parents recipes that represented the cultural background of the children; 2) evaluate the nutrient contents of the recipes; 3) determine the acceptability of these recipes among children, parents, and staff; and 4) select and recommend approved recipes for inclusion in the menu.

METHODOLOGY

The Child Development Laboratories (CDL) at Southern Illinois University at Carbondale serve children from the age of six weeks to six years and feature a developmentally appropriate and anti-bias curriculum with opportunities for experiential learning. The university environment and educational philosophy of CDL encourage children of families with diverse backgrounds to attend. The center is licensed by the State of Illinois for a total of 69 children. At the time of the study, 33% of these children were from immigrant or international families. Twenty-eight children, age three to six may be in attendance in the preschool at one time. The center is accredited by the NAEYC Academy of Early Childhood Programs and participates in the Child and Adult Care Food Program (CACFP).

Food Committee

A popular annual CDL international potluck generated interest in ethnic food among families and staff. The CDL advisory council decided to explore ways to include well-liked ethnic foods in the center's menu, and established an eight-member food committee comprised of parents, teachers, and foodservice staff to conduct a study. The committee's main objective was to collect, evaluate, and select ethnic recipes for the CDL menu. Information regarding the project was announced in the CDL newsletter, and families were asked to submit their favorite recipes.

Modification of Recipes

The food committee held pre-evaluation sessions to assess the quality and suitability of the 18 recipes submitted. Modifications were made to several recipes to enhance nutritional composition. Generally, lowfat varieties of meat and dairy products, and low-sodium butter and soy sauce were used. In some cases, the amount of cooking oil or fat was reduced. Among the main dishes, fat content was reduced as much as 15% in an attempt to meet the goal of 30% calories from fat. Pre-evaluation sessions among the food committee members provided kitchen staff with a chance to learn new food preparation techniques and familiarize themselves with unfamiliar ingredients.

Nutrient Content of Items

The nutrient content of the 18 recipes was analyzed using the Nutritionist IV nutrient analysis program. For each recipe, caloric content and amount of protein, carbohydrate, fat, cholesterol, calcium, iron, and sodium were calculated.

Taste-testing and Acceptability of Items

Three taste-testing sessions were held in the mid afternoon (3:30–4:30 p.m.) before children were picked up from school. All staff, parents, and children were invited to participate. Six items – two of each main dish, side dish, and desserts – were served buffet-style in serving dishes. The names of each recipe were shown on cards, and individual plates and eating utensils were provided. For adults, an evaluation form was used to rate appearance, flavor, texture, and overall acceptability, each being measured as “very good,” “good,” “fair,” “poor,” and “undesirable.” This descriptive scale was subsequently converted into the scale of 5 (very good) down to 1(undesirable). The mean was computed for each quality. Degrees of correlation between appearance and overall acceptability, and flavor and overall acceptability were determined (SPSS 11.5),

Recommendation to Include in CDL Menu

The adult survey included a separate form that asked for opinions regarding the inclusion of individual recipes in the menu. This form was used to help determine whether the food, although acceptable to an adult, was considered appropriate to serve to children. The children, alternatively, were asked to circle a happy or sad face depending on whether they liked the food or not. It was assumed that a happy face indicated acceptance for the menu. Items receiving higher than 80% approval from both adult and child tasters were recommended for inclusion in the menu.

RESULTS AND DISCUSSION

Description of Test Recipes

Table 1 describes the name, origin, and description of the 18 recipes. This set of test recipes represents 14 cultural backgrounds, including Korean, Greek, Polynesian, Vietnamese, Russian, Mexican, German, Italian, Irish, Spanish, British, Native American, French, and Canadian.

Table 1: Description and Origin of Test Recipes		
Recipe Name	Description	Origin of Recipe
Main Dish		
Chap Chae	Cellophane noodles with meat and vegetables	Korea
Pastitsio	Pasta baked with ground beef in bechamel sauce	Greece
Chicken Taro	Chicken served with taro leaves and coconut milk	Polynesia
Goi Go Pho	Chicken and cabbage salad	Vietnam
Kotlety	Soup with roast beef and rice sticks	Vietnam
Pozcharsky	Baked ground beef mixed with bread	Russia
Side Dish		
Frijoles Refritos	Refried beans with cheese	Mexico
Celeriac & Apple Salad	Cooked celeriac salad	Germany
Pear Salad	Vegetable salad with pear	Korea
Tex-Mex Rice	Rice with tomatoes, peas and onions	Mexico

Polenta	Jellied cooked corn meal	Italy
Mustard Soup	Soup flavored with mustard and served with lettuce	Ireland
Dessert		
Flan de Naranja	Flan with orange	Spain
Lemon Curd tartlets	Tartlet filled with lemon curd	Great Britain
Indian Pudding	Cornmeal pudding with ginger and molasses	Native American
Clafouti	Cherries baked with batter on top	France
Blueberry Crisp	Blueberries baked with pastry dough on top	Canada
Mexican Bread Pudding	Bread pudding with apples and cheese	Mexico

Nutrient Content of Recipes

As shown in Table 2, caloric content of the three best-liked main dishes ranged from 173 Kcal to 331 Kcal per serving. Fat content varied from 5.0 gm to 22.1 gm per serving. The two most-liked side dishes, Tex-Mex rice and frijoles refritos, contained 202 Kcal to 211 Kcal, and 11.8 gm to 18.9 gm fat per serving, respectively. The two best-liked desserts, blueberry crisp and Mexican bread pudding, contained, respectively, 294 and 366 Kcal, 49.9 gm and 61.8 gm carbohydrate, and 10.2 and 12.6 gm fat per serving.

Recipe	Serving Sizea	Nutrient contents per servingb						Meal Component Countc		
		Kcal	Pro. (gm)	Carb. (gm)	Fat (gm)	Ca (mg)	Fe (mg)	Meat/Meat alternate	Grains/Breads	Veg./Fruits
Chap Chae	1/2 c	221	9.1	15.9	15.5	38	1.1	1	1	1/2
Pastitsio	1/2 c	331	16.3	10.7	22.1	169	2.4	1.5	1	
Chicken Taro	1/2 c	312	24.8	7.3	19.7	130	5.7	2	1	

Goi Go	1/2 c	173	18.0	17.0	5.0	38	3.6	1.5		1
Pho	1/2 c	127	10.5	10.1	3.5	20	1.9	1	1/2	1/2
Kotlety Pozcharsky	2 oz	183	11.5	7.6	15.5	41	1.3	1	1	
Frijoles Refritos	1/2 c	211	15.7	11.2	18.9	395	1.5	1		
Celeriac & Apple Salad	1/2 c	112	1.8	14.2	16.3	48	0.8			1
Pear Salad	1/2 c	97	1.2	13.2	8.2	80	0.9			1
Tex-Mex Rice	1/2 c	202	4.4	39.6	11.8	27	1.9		1	
Polenta	2" x 4"	126	2.8	24.0	0.7	2	1.9		1	
Mustard Soup	1/2 c	122	3.3	7.5	13.5	44	0.9			1
Flan de Naranja	2 oz	92	2.7	16.0	3.4	15	0.4	1		
Lemon Curd Tartlets	1/2 ea	105	1.9	13.2	9.0	13	0.9	1/2	1	
Indian Pudding	1/2 c	145	3.6	16.4	6.2	205	2.8		1	
Clafouti	1/2 c	126	4.7	22.8	2.8	66	0.7	1/2	1	1/2
Blueberry Crisp	1/2 c	294	4.8	49.9	10.2	42	1.9		1	1/2
Mexican Bread Pudding	1/2 c	366	8.9	61.8	12.6	100	2.8	1	1	

aSource: Food Guide Pyramid for Young Children. A daily guide for 4 to 6 year olds. USDA Center for Nutrition Policy and Promotion. March 1999. Program Aid 1649.

bNutrient analysis performed using Nutritionist IV (First DataBank Division, The Hearst Corporation, 1111 Bayhill Drive, San Bruno, CA 94066, 1995).

cSource: Child Care Meal Pattern. Child Nutrition, USDA. Retrieved August 25, 2003 from <http://www.fns.usda.gov/cnd/care/ProgramBasics/Meals/Lunch.htm>.

Taste-test and Acceptability of Recipes

Adults' taste-test results indicated that of the 18 recipes tested, 15 received "good" or "very good" ratings in overall acceptability (Table 3). It was shown that adult ratings for overall acceptability of an item were more apt to be related to flavor ($r=0.975$, $p=0.01$) than appearance ($r=0.663$, $p=0.01$).

Recipe	Mean Ratings (n=20) ^a				Number of Approval for Inclusion in the Menu	
	Appearance	Flavor	Texture	Overall Acceptability	Adult (n=20)	Child (n=9)
Chap Chae	4.2 + 1.0	4.5 + 1.2	4.2 + 1.2	4.3 + 1.2	17	7
Pastitsiob	4.5 + 0.6	4.7 + 0.6	4.6 + 0.6	4.5 + 0.6	19	8
Chicken Taro	3.3 + 0.8	3.7 + 1.1	3.1 + 0.8	3.6 + 1.1	14	5
Goi Gob	4.7 + 0.5	4.5 + 0.9	4.5 + 0.7	4.3 + 0.8	19	8
Pho	4.2 + 0.9	4.0 + 1.3	4.5 + 0.8	4.3 + 1.1	15	8
Kotlety Pozcharskyb	4.7 + 0.6	4.2 + 0.6	4.3 + 1.0	4.3 + 1.0	18	8
Frijoles Refritos ^b	4.6 + 0.6	4.6 + 0.6	4.7 + 0.8	4.7 + 0.7	18	9
Celeriac & Apple Salad	4.2 + 0.7	3.9 + 0.7	4.0 + 0.9	4.0 + 0.8	14	8
Pear Salad	4.6 + 0.6	4.3 + 1.1	4.5 + 0.8	4.2 + 1.1	16	0
Tex-Mex Rice ^b	4.4 + 1.0	4.4 + 1.1	4.3 + 1.12	4.3 + 1.1	16	8
Polenta	4.4 + 0.6	3.0 + 1.2	3.6 + 1.1	3.1 + 1.3	8	3
Mustard Soup	3.7 + 1.2	4.3 + 0.9	4.3 + 0.8	4.0 + 1.1	8	0
Flan de Naranja	4.5 + 0.7	3.9 + 0.9	3.9 + 0.9	4.0 + 0.9	13	4
Lemon Curd Tartlets ^b	4.7 + 0.5	4.7 + 0.5	3.9 + 1.4	4.5 + 0.7	18	9
Indian Pudding	3.5 + 1.3	1.8 + 1.1	3.2 + 1.3	2.1 + 1.4	2	2

Clafoutib	4.6 + 0.6	4.4 + 1.0	4.1 + 1.1	4.5 + 1.0	18	9
Blueberry Crispb	4.5 + 0.9	4.7 + 0.5	4.7 + 0.5	4.7 + 0.5	20	9
Mexican Bread Puddingb	4.6 + 0.5	4.6 + 0.7	4.6 + 0.7	4.6 + 0.7	19	9

aValues: Mean + Std. Dev.; Scale: 5 to 1, 5=very good, 4=good, 3=fair, 2=poor, and 1=undesirable

bItems which received 80% or higher approval for inclusion in the menu by both adults (16/20) and children (8/9). These items were recommended for inclusion in the menu.

Among all the items tested, frijoles refritos and the blueberry crisp dessert received a mean overall acceptability rating of 4.7. Pastitsio, lemon curd tartlets, clafouti, and Mexican bread pudding, received mean ratings of 4.5 or 4.6. This high acceptance level could be due to the fact that tasters were familiar with similar dishes. The results are consistent with that of previous studies showing that familiarity with a dish may result in high approval of a new recipe (Ashraf & Luczycki, 1990; Cardello & Maller, 1985). Dessert items, especially baked items, were all highly acceptable to adults, as well as children. Recipes rated below “good” included polenta, chicken taro, and Indian pudding. These items had typically strong, unfamiliar flavors and appearances.

Consideration for Inclusion in CDL Menu

When asked if they would like to see the item on the CDL menu, adult responses did not match their ratings for the acceptability (Table 3). In the main dish category, pastitsio, a pasta dish from Greece, received the highest percentage of approval to include in the menu among adults (94%), followed by goi go, a Vietnamese chicken dish with cabbage and carrots (93%). Among side dishes, frijoles refritos received the highest approval from adults (88%), as well as from children (100%). Of nine recipes that were approved for inclusion on the menu by both adults and children, only two recipes, Tex-Mex rice and Mexican bread pudding were immediately adopted for the cycle menu. The others remained as selections in the CDL recipe file. These two recipes were easy to prepare, all the ingredients were already in use at CDL, and the flavors were familiar to adults and children.

The main difficulties identified with incorporating some of the approved items in the existing menu were 1) the kitchen staff needed training in cooking the wide variety of foods; 2) procurement of unfamiliar ingredients required flexibility in purchasing; and 3) expanding home-sized recipes to quantity standardized recipes was needed. The commitment of management was found to be imperative to implementing this project due to the need for additional staff time and the cost for new ingredients. However, the cost increase was not significant for this project. Since the ethnic make-up of a preschool will change over time, it may be necessary to repeat this process as needed.

Meal Planning Strategies

As shown in Table 2, the majority of dishes tested in this project were mixed foods that provided

more than two meal components under the Child and Adult Care Meal Pattern (Child Nutrition Program, 2003). For example, pastisio or kotlety pozcharsky could be served with one serving of steamed vegetables, one serving of fresh fruit, and a glass of milk, since these entrees supply one serving each of meat and grains. The meal planner would need to know the nature and amount of major ingredients for proper counting of meal components.

CONCLUSIONS AND APPLICATION

The present study demonstrates how preschool programs can involve parents and staff in making informed decisions for diversifying foods on the menu. Participation by the children, families, and staff greatly enhanced the likelihood of choosing well-liked foods for the menu. Taste-testing sessions provided an occasion for sharing family food traditions. Foods from different cultures were selected for incorporation in the existing menu. Training kitchen staff for a wider variety of food preparation techniques and procuring uncommon ingredients were immediate difficulties. The strong commitment of management for allocating appropriate resources may be required for continuing the implementation of this program.

Enhancing menus and expanding food items offered in schools have proven to be vital marketing tools for school foodservice as today's students have become sophisticated eaters and discriminating diners (Meyer & Conklin, 1998). A recent study also indicates that parental intention to encourage children to participate in the National School Lunch Program has a strong influence on the children's actual participation (Lambert, Conklin, & Johnson, 2002). Various USDA programs such as Team Nutrition, School Lunch Challenge, and Commodity Recipe Exchange provide excellent educational activities and foodservice management materials to assist schools in diversifying their menus (National School Lunch Program, 2003).

The environment of this study represents one childcare setting in a Midwestern university community, and the scope is limited to the selection process of a small number of ethnic foods. To make school lunch programs more inclusive, future studies may be directed toward developing standardized recipes representing diverse cultural backgrounds, especially recent immigrant groups. Developing training materials and strategies for foodservice staff may be needed, as well. Timely planning, research, and a strong commitment seem to be the key ingredients for the successful adoption of new flavors in school food programs.

ACKNOWLEDGEMENTS

The authors thank Drs. J. Endres and N. Zobairi for their critical review and valuable suggestions during the preparation of this manuscript. This article is based on the master's thesis, *Incorporating Ethnic Foods in the Menu at the Child Development Laboratory at Southern Illinois University at Carbondale*, by Mary Smith.

REFERENCES

Achterberg, C. (1988). A perspective on nutrition education research and practice. *Journal of Nutrition Education*, 88, 240-243.

American Dietetic Association. (2003). Position of the American Dietetic Association, Society for Nutrition Education and American School Food Service Association: Nutrition services: An essential component of comprehensive school health programs. *Journal of the American Dietetic Association*, 103, 505-514.

Ashraf, H.L., & Luczycki, D. (1990). Acceptability of tofu-containing foods among college students. *Journal of Nutrition Education*, 22(3), 137-140.

Birch, L. (1987). The role of experience in children's food acceptance patterns. *Journal of the American Dietetic Association*, 87, S36-S40.

Cardello, A.V., & Maller, O. (1985). Role of consumer expectancies in the acceptance of novel foods. *Journal of Food Science*, 50, 1707-1714.

Child Nutrition Program. (2003). *Child Care Meal Pattern*. [Available online: <http://www.fns.usda.gov/cnd/care/ProgramBasics/Meals/Lunch.htm>.]

Derman-Sparks, L., & ABC Task Force. (1989). *Anti-bias curriculum: Tools for empowering young children*. Washington, DC: National Association for the Education of Young Children.

Endres, J. B. & Rockwell, R. E. (1994). *Food, nutrition, and the young child*. (4th ed.). New York, NY: Merrill Publishing Co.

Food and Nutrition Services. (2003). *Policy statement, Team nutrition*. [Available online: http://www.fns.usda.gov/tn/grants/TN_policystatement.pdf.]

Lambert, L.G., Conklin, M.T., & Johnson, J. T. (2002). Parental beliefs toward the National School Lunch Program related to elementary student participation. *Journal of Child Nutrition and Management*, 25. [Available online: <http://www.asfsa.org/childnutrition/jcnm/02fall/lambert>.]

Marketdata Enterprises, Inc. (2001). *U.S. child day care services, nanny & au pair agencies: An industry analysis*. [Available online: <http://www.marketdataenterprises.com/sampledaycare.htm>.]

Meyer, M.K., & Conklin, M.T. (1998). Variables affecting high school students' perceptions of school foodservice. *Journal of American Dietetic Association*, 98, 1424-31.

National Association for the Education of Young Children. (1997). *Guide to accreditation by the National Academy of Early Childhood Programs*. Washington, DC: Author.

National School Lunch Program. (2003). *Healthy School Meals Resource System*. [Available online: <http://schoolmeals.nal.usda.gov/index.html>.]

Satter, E. (1987). Comments from a practitioner on Leann Birch's research. *Journal of the American Dietetic Association*, 87, S41.

Smith, K. (2002). *Who's minding the kids? Child care arrangements: Current population reports – Spring 1997*. Washington, DC: U.S. Census Bureau, U.S. Department of Commerce.

Wardle, F. (1991). Food in a multi-cultural preschool environment. *Proceedings of the Nutrition Society of Australia*, 16, 232.

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