

Appendix H

Nutrition Education in the Schools

Nutrition education at school that is consistent with the principles of fdSatter (the Satter Feeding Dynamics Model) and ecSatter (the Satter Eating Competence Model) maintains children's intuitive eating capabilities and builds their cognitive and behavioral capabilities in a stage-related, developmentally appropriate fashion. Children are born with the ability to eat as much as they need to grow predictably and with the drive to learn to eat the food their grown-ups eat. Adults support children's inborn eating capabilities by providing leadership and giving autonomy: By regularly and reliably providing children with adequate amounts of wholesome food in a positive environment and by letting children decide what and how much to eat of what grown-ups offer. Slowly and over time, children who receive such good parenting with food become competent with eating. They retain their positive eating attitudes and food regulation capabilities as well as develop practical food acceptance attitudes and behaviors. Young children depend on their grown-ups to manage the food context. It is only toward the end of grade school and under adult guidance that they begin to learn to manage the food context by doing some food selection for themselves.

Nutrition education based on feeding dynamics and eating competence principles leads with experience and with the practical. It follows with the theoretical, provided the child is developmentally ready and has mastered the

experiential and practical lessons outlined in Figure H.1.

FIGURE H.1 EXPERIENTIAL AND PRACTICAL NUTRITION EDUCATION

The young child learns eating capability concretely—with her body and through her feelings and attitudes. Here are examples of concrete ways that children learn about food and about eating.

- Having experience with food and with eating situations.
- Being with adults who enjoy a variety of food.
- Being allowed to explore and approach unfamiliar food at her own pace: to look, touch, feel, taste, and watch others eat.
- Being allowed to eat as little or as much as she needs.
- Being supported in feeling good about her body.
- Being with adults who accept diversity with respect to body size and shape.

A child raised by parents who practice positive feeding dynamics has received *intuitive* nutrition education. With her *body* and with her whole *being* she has learned positive attitudes about food and eating, has developed food acceptance skills and retains her ability to regulate food intake. As a result, such a child has the basic capabilities with eating outlined in Figure H.2.

FIGURE H.2 INTUITIVE CAPABILITIES WITH EATING

The child who has been appropriately parented with food and eating preserves her food regulation capabilities and her positive feelings and behaviors with respect to food and her body.

- She has the meal habit; she is secure in her expectation that her grown-ups will regularly and reliably provide for her.
- She enjoys eating and is confident and unselfconscious about eating.
- She has good food acceptance skills. She knows how to behave around food whether at home, in the school cafeteria, or in social eating situations.
- She assumes she will get enough to eat.
- She intuitively depends on her internal regulators to let her eat as much or as little as she wants.
- She feels good about her eating and her body.

The best nutrition education at school reinforces a child's trust in the intuitive capabilities she has gained at home and, when she is older, adds an understanding of those capabilities. Building on a child's capabilities is respectful of her family. After an extensive review of such programs, university specialists found that the few programs that were successful in increasing children's food acceptance were programs that took significant time with nutrition education, that let children *eat or work with food*, and that involved families, schools, and communities.¹ After a thorough review of environmental influences on children's eating, other nutrition educators reminded readers that basic respect for the family unit was the essential means of ensuring children's health and well-being.²

Nutrition education in schools can be delivered in the regular classroom or in physical education, consumer science, health, social studies, history, chemistry, or biology class.

Don't Teach Children Adults' Jobs

For the most part, conventional nutrition education units teach children jobs that belong to adults. In the very early grades, children are given concrete experiences with food. Beyond those early grades, curricula tend to become more abstract; they teach nutrition and expect

children to apply nutritional principles to food selection. Such expectations are unrealistic. In Minneapolis, researchers found that students in kindergarten through sixth grade have difficulty using the Food Guide Pyramid (current at the time of the study) and other standard nutrition guidelines to evaluate the acceptability of foods. Younger children freely use terms such as "low-fat" and "low-sugar," but they have trouble naming foods in those categories. Children in the third through sixth grades still have difficulty understanding concepts like "avoid high-fat food," "eat a variety of food," and "maintain a healthy weight."³

Why would children want to learn these rules? Provided they are being offered regular and nutritious meals and snacks in a positive environment, children have within them far more sophisticated mechanisms for achieving nutritional adequacy, regulating food intake, and maintaining healthy weight. For a young child, learning how to choose food and how to regulate food intake is like learning how to breathe. It doesn't arise. The food is there; you eat it or don't eat it, and you eat as much or as little as you want.

Rule- and avoidance-based nutrition lessons are particularly problematic. Children naturally explore, learn, and grow. Warnings about food impede their exploration. To cope, they become rigid and try to live by rules that are to them illogical, ignore them completely, or give up and become rebellious.

Instead of teaching children adults' jobs, support children in doing *their* jobs. Children's jobs with eating are to learn to eat the foods their grown-ups eat, to eat the amount of food they need to be healthy and energetic, and to grow in accordance with their genetic endowment. Children can do their jobs with eating if adults provide leadership and give autonomy.

Address Food Acceptance

Support children in accumulating positive food acceptance attitudes and behaviors and in restoring those capabilities if they have been impaired:

- Being relaxed and comfortable at mealtime.
- Knowing how to behave in situations where food is available.

- Being calm around food, even when it is unfamiliar or disliked.
- Being able to choose from available foods.
- Being polite and matter-of-fact about saying “yes, please” and “no, thank you.”
- Being inclined to experiment with unfamiliar food by examining it, watching others eat it, and eventually tasting it.

PROVIDE FOOD EXPOSURE

Children learn food acceptance from experience. Developing comfort with unfamiliar food and learning to like it takes 10 to 20 neutral exposures or more.⁴ To increase exposure, team up with the school lunchroom and arrange to have foods appear both in the classroom and on the lunch menu. Neutral exposure is matter-of-factly presenting the food without outside pressure of any kind and, in fact, reassuring children they do not have to eat, taste, or even *lick* the food. Outside pressure can *appear* to be positive, as when a child is encouraged, enticed, persuaded, applauded, or rewarded for eating or even tasting the food. However, children can’t be fooled. They sense they are being pressured and react by slowing or stopping their acceptance of new food.

Neutral exposure means not only avoiding coercing children in any way to eat, but also not modeling or teaching value judgments about food beyond the value judgments that are inherent in choosing food to bring into the classroom or to include in the school nutrition program. Keep messages about food neutral. Avoid reminders that foods are healthful, and don’t tell children how many servings of food they “should” eat. Do not say or imply that some food is healthier or better than other food, or that children should or should not eat this or that. Teach children to avoid making negative remarks about food. Every food is somebody else’s favorite and sneering at it scorns their family and culture. The respectful study of food and food traditions offers children a vivid understanding of other people, cultures, and eras. In fact, invite parents to visit the classroom and talk about or bring samples of their family food.

- In the early grades, give children concrete experience with food by letting them touch, smell, prepare, taste, and sort into basic food categories.

- In the upper grades, combine food-exposure lessons with lessons that put food in context. Broaden exposure to food by studying food-related issues, such as cultural differences, production, transportation, food in history, and the politics of food. Encourage children to talk about foods that they eat at home, and find out what people in other homes and cultures eat. Reinforce earlier learning about basic food categories by planning and preparing after-school snacks. (See figure 6.2, “Planning a Good-Tasting and Satisfying Snack” on page 62.)
- In high school, explore novel foods and reinforce earlier learning about food acceptance. Capitalize on adolescents’ capabilities with abstract thinking by considering the nutritional qualities of foods, the nutritional ingenuity of diets from other cultures, and the chemistry and biology of food.

TEACH FOOD ACCEPTANCE SKILLS

Children learn food acceptance skills experientially—by being shown how to behave in the presence of food. Food acceptance attitudes and skills are more important for a child than what she eats on any one day. Even if she doesn’t sample new food in the nutrition education setting, a child who has positive food acceptance skills is prepared for a lifetime of experimenting with new food and learning to like it. To teach food acceptance skills, establish ground rules and give reassurance that children don’t have to eat or even taste the food. Children will be braver about tasting new food if you show them how to get food out of their mouth without making a fuss. While they don’t have to taste, children are expected to participate in food lessons—to look, touch, prepare, and discuss. They are expected to follow rules about cleanliness. They have to be polite about accepting and refusing food.

Some children in particular benefit from learning food acceptance skills and from being reassured that they don’t have to eat if they doesn’t want to. A child who is *really* cautious or reacts especially negatively to new food may be forced at home to eat more or different food than she wants, or she may be sheltered from unfamiliar foods by family menus that are limited to foods that she readily accepts. Sometimes the child’s lack of experience grows out of family economic pressure. Families who have

tight food budgets food acceptance skills, being consistent with both taking leadership and giving autonomy will allow the child to address and correct her own limitations.

- In the early grades, support children's natural inclination to explore by arranging to have a trusted grown-up with them when they eat. At the very least, introduce young children to the school nutrition setting. Help children examine the offerings, show them how to ask for food and coach them in turning it down. Remind children they may accept food and not eat it.
- In the late grades, reinforce children's natural inclination to learn and master by teaching them the principles of learning to like new food and the practicalities of being comfortable with a variety of food. Depend on children's varying food traditions to introduce unfamiliar food.
- In high school, reinforce children's natural inclination to challenge and establish their individuality by introducing the possibility of broadening their food repertory rather than simply breaking the nutritional rules of their elders. Consider food selection behaviors from the personal perspective of assessing risk. For instance, is it an acceptable risk to bone health to shun milk in favor of soda?

Address Regulation of Food Intake

With respect to preserving her ability to eat the right amount of food, a child needs to be offered adequate amounts of enjoyable food at predictable times, and she needs to be allowed to eat as much or as little of those foods as she wants. Beyond providing them with adequate amounts of food at predictable times, support children in preserving their natural regulatory ability and in restoring that ability if it has been impaired:

- Remaining calm in the presence of food.
- Waiting to be served.
- Asking for more if she wants it.
- Being relaxed about eating.
- Being confident and unworried that she will get enough to eat.
- Stopping voluntarily.
- Forgetting about food between regular eating times.

RESTORE FOOD REGULATION SKILLS

If all has gone well for them, children take it for granted that they can trust their bodies to tell them how much to eat. However, it is likely that some if not many children will enter the classroom with deficits with food regulation. A child may seem turned off to food and uninterested in eating. Another child may seem preoccupied with food, desperate to eat and inclined to eat relatively large amounts of food. The deficit in children's ability to regulate food intake is not innate, but grows out of distortions in feeding dynamics. A child who has been coerced into eating more than she wants is likely to become turned off to food and under-eat when she gets the opportunity. A child whose food intake has been restricted with respect to either amount or type of food is likely to become food-preoccupied and overeat when she gets the opportunity.

With such children, do the opposite of what seems right. Reassure the uninterested child that she doesn't have to eat, and address factors in the school food environment that may overwhelm her to the point where she loses interest in food. For instance, does she need to sit with a trusted adult, do adults or other children try to persuade her to eat, or is she expected to put foods on her tray when she doesn't want them? Reassure the food-driven child that mealtime or snack time is coming, that she can have as much as she wants to eat at those times, and address factors in the school environment that make her feel that she will have to go without. Her food preoccupation may arise from food restriction, from economically based food insecurity or from conditions that mimic food restriction, such as erratic and unreliable access to food.

ENHANCE SKILLS WITH SELF-AWARENESS TRAINING AND FACTUAL LESSONS

- Children know how much they need to eat. Self-awareness training and factual lessons help them to know what they know. In the early grades, the message, "Your body knows how much you need to eat" is enough. Make teaching about food regulation concrete and related to the child's experience of herself. "How does it feel inside when you are hungry?" "When you are full?" "Do you like being hungry?" "Do you like being full?"
- In the late grades, food regulation lessons make conscious for children the unconscious

mechanisms of hunger, appetite, and satiety. Teaching food regulation is a consciousness-raising activity, and that's *all*. There are no rules or guidelines attached to how much children *should* eat. Ask questions, such as "What does it feel like when our body needs food?" "What does it feel like when you are ready to stop eating?" Address energy regulation from the perspective of supporting innate regulatory processes: "Do you eat the same amount every day?" "Do other people eat the same amount that you do, even those who are a lot like you?"

- In high school, children can explore mechanisms of food regulation. Given the fact that such a high proportion of adolescents diet to manage their weight, it is critical for them to consider their own food-regulation strategies and to evaluate the utility of those strategies.⁵ Consider reading and discussing chapter 4, "Eat as Much as You Want," and Appendix E, "Energy Balance and Weight." Support their exploration by asking the question, "What holds true for you with respect to your eating and weight?"⁶ Absolutely avoid prescriptive lessons about regulating food intake or striving for target body weight.

SUPPORT RESPECT FOR DIVERSITY IN BODY SIZE AND SHAPE

An essential component of trusting internal regulation is accepting one's own size and shape and that of others. Both the food acceptance and food regulation units support diversity with the underlying theme that "everybody's different" with respect to food preference and energy requirements. Helping children to trust their eating helps them to trust and accept their bodies and supports physical self-esteem. This unit is more direct in its examination of diversity in body size and shape.

The issue of size and shape diversity teaches facts, but the most important lessons are attitudinal. By reinforcing the notion that "everybody's different" with respect to body size, shape, and physical capability, you can help children avoid developing contemptuous or disdainful attitudes toward themselves and other people. Do not weigh children. Children are comfortable about the differences among themselves as long as adults don't introduce value judgments and negative comparisons. In the context of today's pressure on schools to intervene with children's

weight, adults may label even naturally large children as overweight. Such labeling can have devastating consequences. Children who are labeled overweight feel flawed in every way: not smart, not physically capable, and not good about themselves.⁷

- In the early grades, a child benefits from getting a clear and accurate image of her own size and shape. A young child enjoys having her outline traced on a big piece of paper, measuring to see how tall she is, drawing pictures of herself and her family, and writing stories about her eyes, hair, skin color, size, and shape. All of these observations just *are*: there are no rights or wrongs, goods or bads.
- In the late grades, children become more conscious of ideas and expectations about size and shape and are capable of making positive—or negative—use of those ideas. Because older children are oriented toward doing and achieving, it seems natural to them that body size and shape can be done and achieved like other tasks. They assume they can pick out a particular body and get it through their own efforts. As a consequence, for older children it is important to emphasize that size and shape can't be built to specifications. Then help them to explore concrete themes in diversity, address differences in height and body build. Neutralize the topic of body build by having them look at and feel their hands. Examine the similarities and differences with respect to their parents' and other family members' height and body build. Identify each person's particular physical skills and capabilities. To help preadolescents address their feelings about their bodies, consider using the video and discussion guide, *BodyTalk 2: It's a New Language*.⁸ In this video, 9 to 12 year olds share their struggles with body esteem, puberty, trying to fit in, and finding support.
- In high school, students can address size and shape concerns from the perspective of identifying, evaluating, conforming to or resisting messages about size, shape, and attractiveness. They can identify realistic physical role models based on their own bodily characteristics. Consider using the video and discussion guide, *Body Talk 1: Teens Talk about Their Bodies, Eating Disorders and Activism*.⁹ In this

video, teens discuss the pressure they feel on their weight from media, family and friends, and the effects those pressures have on their physical and emotional self-esteem. Having addressed the personal, adolescents can consider the theoretical, examining genetic differences in size, shape, physical capability, and energy regulation.

Address the Eating Context

Fundamental to eating competence is maintaining the food context:

- Making eating a priority.
- Taking time to eat.
- Providing regular and reliable meals and snacks.
- Choosing food for those meals and snacks.

Throughout the early and late grades and high school, learning about food management is in the context of adults' continuing to take primary responsibility for the *what*, *when*, and *where* of feeding. Children of all ages who are fed regularly and reliably internalize the meal habit.

GRADUALLY SHAPE EATING CONTEXT SKILLS

As they get older, children can gradually begin to understand and master the principles and tasks that grownups use for choosing food and planning and preparing meals and snacks.

- In the early grades, it is not appropriate to assign young children responsibility for managing the food context. As noted previously, it is all right to introduce third- or fourth-graders to the food groups so they can have fun categorizing foods, but they are not capable of applying food-selection guidelines to choosing what to eat.
- In the late grades, many children are cognitively developed enough to begin to think abstractly. In a limited fashion, those children can make practical use of food-group categories along with considerations of food preference for deciding what to eat for a meal at school or a snack after school. They can also apply their developing time management skills to taking time for their after-school snack.
- In high school, adolescents master the food context—structure and food management—so they can provide for themselves after they

leave home. They learn to manage their schedule so they can make time for eating—both with the family and on their own.

They learn to keep food safe, to plan, shop for and prepare a few simple meals and to put together a reasonably balanced diet from home-prepared, pre-prepared, and restaurant food.

Address Eating Attitudes

The primary attitudinal goal with ecSatter and fdSatter is to establish and maintain positive and flexible attitudes about eating, which in turn allow being responsively attuned to outer and inner experiences relative to eating.¹⁰ Preserving and cultivating positive attitudes about eating and about food is an outgrowth of the modeling and coursework in this curriculum. Children will have a relaxed self-trust about food and eating and will experience harmony among food desires, food choices and amounts eaten.

- In the early grades, children can be asked how they feel when they are working with food or eating it. "How do you feel about eating this?" "Do you like eating?" "Do you like cooking?" "Do you like this food?" "What is your favorite food?"
- In the late grades, children can begin to consider attitudes and address their own feelings and beliefs. "Do you think eating is important?" "Do you think your parents consider eating to be important?" "Do you enjoy eating?" "Do you think it is all right to enjoy your eating?"
- In high school, adolescents can work to understand the role of attitudes and beliefs in guiding behavior and choices. "What are social attitudes about food?" "About eating?" "What attitudes do your parents have about food and eating?" "Do their attitudes reflect your own?" "Are you comfortable with those attitudes, or do you want to change them?"

Address Young Adults' Eating Competence

Young adults who have a high frequency of family meals as adolescents make feeding

themselves a priority, plan eating into their schedule, and see to it that they get to eat with other people.¹¹ Most young adults do not prepare food for themselves, but those who do have diets of higher nutritional quality.¹² Clinical experience shows that young adults present with many deficits in eating competence. They may show extreme food selectivity, use weight reduction dieting as a means of regulating food intake, fail to make feeding themselves a priority, and lack the skills for providing for themselves nutritionally. Such students may register for nutrition classes in hopes of finding out how to feed themselves. College courses that focus on nutrition and food selection have been shown to be ineffective for increasing eating competence. In a study of 334 non-nutrition-major undergraduates, ecSI scores remain low for all students and even decrease in males.¹³

The eating competence approach to nutrition education for this population strives to correct deficits in eating competence by working through part I, "How to Eat," systematically addressing eating attitudes, food acceptance skills, food regulation capabilities, and skills with respect to managing the food context. By way of building competence with managing the food context, the curricula addresses the food management issues in part III, "How to Cook." Students plan simple menus from the suggestions in those chapters. Students learn to do grocery shopping, and even go on field trips to observe grocery store organization and marketing strategies, discover possibilities for feeding themselves, and get help with respect to accessing those possibilities according to the principles outlined in *Secrets of Feeding a Healthy Family*: Provide, don't deprive. Seek food, don't avoid it.

Follow, Don't Lead, with Nutrition Lessons

Following the previous suggestions, high school and young adult students will have learned their food management lessons concretely—they will have developed the meal habit, their food acceptance skills support their seeking variety, and their food regulation skills support their eating the amount they need. Such concrete learning may or may not make them curious about the theoretical study of

nutrition and food composition. If energy for such an exploration emerges, chapter 13, "Choosing Food," is written on a level that is accessible to adolescents. However, use this information strictly to reinforce students' capabilities with respect to managing the food context. Do not use it to motivate or persuade students to eat particular foods or to avoid others.

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