

Food As Fuel
Introducing Healthy Eating in The K-2 Autistic Classroom

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Abstract

This curriculum unit is designed to introduce kindergarten through second grade students about the importance of eating healthy. Through the use of stories and activities students will learn how to make food choices that are beneficial to their health and overall well being. This unit was designed for use in the autistic classroom, but can be used in the regular education classroom as well. Each lesson is designed to be completed in one class period, with the exception of lesson 3, the shared cooking lesson. This lesson may take two class periods to complete,

Key Words: nutrition food autism Pecs

Rationale

I teach K-2 Autistic Support at E W Rhodes Elementary School which is located in the Swampoodle section of North Philadelphia. This is a high poverty area where drugs and violence are prevalent, and healthy food choices are scarce. For the majority of our students, life is full of despair and uncertainty. The school is surrounded by housing projects and run down rowhomes and backs up to the historic Laurel Hill Cemetery, the ominous grave markers looming over the students as they play in the school yard.

There is one supermarket in the neighborhood where I teach. It's fairly new, and if you don't have a car, it is inconvenient to get to. For this reason, most of the people who live in the area rely on the "papi stores" for their daily necessities. The papi stores, or corner stores in

poverty ridden Philadelphia neighborhoods, offer an assortment of low priced chips, candy, and sugary drinks. On any given school day, there is a parade of students marching through the front doors of our school carrying their little black plastic bags full of hugs and chips which they will eat for breakfast or lunch. The students are unaware of the repercussions of these food choices on their lives, long term, and why shouldn't they be? These students are bombarded by advertisements for fast food on television, radio, billboards, and even on the sides of buses. They walk into the corner store, where there is not a fruit or vegetable to be found, and make their choices from what is readily available and familiar to them, junk food.

As educators in high poverty neighborhoods it is important to address this problem with our students. Just as learning to read and write are important for our students academically, learning about nutrition can greatly improve their health in terms of quality of life and longevity outcomes. Years ago, as a high school special education teacher, I was surprised that my 9th to 12th grade students lacked knowledge about the different types of fruits and vegetables available at the supermarket. While reading a story in class, the word mango came up. Several of my students asked, "What's a mango"? This question led to a class discussion about various fruits and vegetables which are readily available at mainstream supermarkets, but that surprisingly, some of the students had never eaten or even heard of. How can our students make healthy food choices when they don't even know what those choices are? In neighborhoods where fast food and junk foods are the norm, and where parents, for many reasons, cannot prepare healthy meals for their families, it is necessary for teachers to step in. We can introduce our students to food choices that they don't even know exist, thereby broadening the scope of their healthy food options.

During the implementation of this curriculum, my goal is to make students aware that food is a source of fuel for our bodies. This will involve making students aware of the negative effects of eating foods high in sugar and calories, and the positive effects of eating fruits and vegetables that are high in vitamins. I will also explore how to make healthy foods more desirable for the students. My students are kindergarten, first and second graders, so they are still young and more likely to be adventurous when it comes to trying new foods. They also enjoy relaying newfound information to others, making them likely to go home to tell mom what they learned about eating healthy. The final component of this curriculum will be to involve parents in the learning process. One of the most important things that I've learned as an educator is that given the opportunity, parents often welcome the chance to participate in their child's education. In an effort to reinforce healthy eating among my students, I will bring their parents into the classroom to learn along with us. Student success in the classroom is more likely when the parents are included.

Teaching Challenges in the Autistic Classroom

Every classroom has its own specific set of behavioral and educational challenges. Nowhere is this more obvious than in the Autistic classroom setting. Tantrums are not uncommon, and communication is often challenging. Young autistic students are often non-verbal or have limited language skills. This requires using alternate methods of communication when teaching.

Autistic students, like any other students have very unique ways of learning. They tend to be very visual learners. The Picture Exchange Communication System or PECS is an alternative mode of communication used in the autistic classroom. The goal of PECS is to teach functional communication. Students exchange pictures of a desired object with teachers or other adults in the classroom in order to obtain their wants or needs. PECS pictures should be made readily available in the classroom. Many autistic students benefit from having a personal PECS binder filled with pictures of objects, actions and emotions on hand in the classroom to aid in communication.

Feeding Challenges of Autistic Children

Sensory issues are very common in Autism. These issues can be a big problem when trying to introduce new foods into the child's diet. If an autistic child does not like the color, smell, or texture of a certain food, he/she will avoid those foods, thereby limiting the child's nutritional options. These restrictive food choices can have negative health consequences for the child such as malnutrition, low energy, or obesity. A balanced diet is important for a child's growth and development, which is why introducing this topic is important.

Obesity is a big concern for the parents of autistic children. Studies show that 32% of 2 to 5 year olds with autism are overweight and an alarming 16% of 2 to 5 year olds are obese. Introducing autistic children to a well balanced diet early is important. Daily exercise is also mandatory to keep children with autism from suffering the negative effects of becoming overweight or obese.

Objectives

In alignment with the Pennsylvania Health Standard, 10.1C Health, Safety, and Physical Education, students will learn to make healthy food choices, and identify foods that keep our bodies healthy.

In alignment with the Pennsylvania Math Standard, CC.2.4.1.A.4, Measurement, Data and Probability, students will participate in completing a Venn Diagram to illustrate student food preferences.

In alignment with the Pennsylvania Constructing and Gathering Knowledge Standards AL.1.1.C.1, Approaches to Learning Through Play, students will engage in cooperative activities that will teach them how to make healthy food choices.

Instructional Strategies

Read alouds based on food choices will begin each lesson. Activate prior knowledge about food, food choices, and the difference between foods that are good for our bodies and foods that should be eaten in moderation. Make Pecs pictures readily available to assist nonverbal students responses.

Lesson 1: Favorite Fruits and Vegetables

Objectives

Students will:

- Recognize various fruits and vegetables.
- Recognize and match fruits and vegetables of different colors.
- Create a Venn Diagram of their favorite fruits and vegetables.

Content

PA Standards

Health

- 10.1.1.C1 Identify foods that keep our bodies healthy

Math

- CC.2.4.1.A.4 Represent and interpret data using tables/charts.

Approaches to Learning Through Play

- AL.1.1.C.1 Engage in cooperative, purposeful, and interactive play experiences that enhance learning.

Curriculum Connections

Health, Math, Approaches to Learning Through Play

Materials

Chart Paper, 2 Different Color Dry Erase Markers, Pecs Pictures of various fruits and vegetables, small red, yellow, green, orange, and purple plastic bins. Plastic fruits and vegetables of varying colors. If plastic fruits and vegetables are not available, Pecs pictures of different fruits and vegetables can be used.

Activity

Show the students the book, *Why Should I Eat Well?*, by Claire Llewellyn. Tell the students that the book is about how important it is for them to eat fruits and vegetables. Ask the students to name their favorite fruits. Students who are able to, can answer the question verbally. In order to allow those students who are nonverbal to answer, Pecs pictures will be available on the table in front of the students. Nonverbal students can flash the picture/pictures of their favorite fruit to the class. Student responses will then be recorded in a Venn Diagram on a piece of chart paper that is hanging on the board/wall. Next, ask the students to name their favorite vegetable. The students will then again use the appropriate mode of communication to answer the question,

with their responses being recorded in the Venn Diagram. The Venn Diagram organizes the information visually, so that the students can see which fruit and vegetable preferences they have in common. The Venn Diagram also serves as an indicator of which fruits and veggies that the students are not familiar with. For example, if all of the student responses are the same, apples, oranges, bananas, broccoli, which are all readily available in Philadelphia Public Schools as a part of the free lunch program, this will be an indicator of which different fruits and vegetables can be introduced to the students to broaden their food choices.

Next, read the book, *Why Should I Eat Well?* to the students. This book stresses the importance of eating healthy in a very child friendly way with its engaging language, and entertaining illustrations. As you read, emphasize to the students the benefits of eating healthy that are mentioned in the story. Talk about how the character in the story says that healthy foods give you energy and unhealthy foods make you sleepy.

Wrap up the activity by placing the colored bins on the table in front of the students. In order to introduce the students to vegetables and fruits that they may not be familiar with, show them the fruits and veggies and ask the students to name them. Have the students place the various plastic/Pecs vegetables into the bin that matches the color of the fruit/vegetable. This will help with color matching as well as fruit and vegetable recognition.

Lesson 2: Food Gives Me SuperPowers!

Objectives

Students will:

- Know the difference between healthy and unhealthy foods

- Choose healthy foods to create a meal

Content

PA Standards

Health

- 10.1.1.C1 Identify foods that keep our bodies healthy

Approaches to Learning Through Play

- AL.1.1.C1 Engage in cooperative, purposeful, and interactive play experiences that enhance learning.

Curriculum Connections

Health, Approaches to Learning Through Play

Materials

Laminated pictures of different types of foods; fruits, vegetables, proteins such as chicken and fish, candy, chips, cookies, etc. You can cut these pictures out of magazines or print them out on the computer and then laminate them so that you can reuse them. Superhero capes. These are optional, but I found them on Amazon at a very reasonable price.

Activity

Tell the students that they are going to learn how to eat like superheros! (You can wear a Superhero cape and flex your muscles to get your point across. Autistic students tend to be very visual learners and adding some theatrics to the lesson will surely keep their attention and provide a reference for them the next time they go to the supermarket with mom and dad.) Show the students the book, *The Boy Who Loved Broccoli*, by Sarah A. Creighton. Tell the students that some foods that we eat are good for us because they give us energy, like fruits, vegetables, fish, etc. and that some foods that we eat can make us sleepy, like candy, cakes, chips and other foods high in calories and fat. Attach an assortment of different foods, healthy and unhealthy, to the board with velcro. Make a chart with two columns on the board. One column will be titled

Superhero Food, the other will be titled Sleepy Food. Show the students the laminated pictures of food. Tell the students that you will be placing each food in one of the columns. Place each food in the correct column explaining to the students that eating a carrot will give your body energy, but sugary candy will make you sleepy.

Next, read the story, *The Boy Who Loved Broccoli*. In the story, the main character, Baxter, realizes that broccoli gives him superpowers. This healthy food gives him the energy that he needs to perform superhero feats. Broccoli makes him able to jump over mountains and swim across lakes. While you are reading the story, put emphasis on Baxters superhero feats.

(Students love this part!)

Wrap up the lesson by giving each student a paper plate. Tell the students that they will be making a healthy meal. Place an assortment of pictures of food in front of the students. Tell the students to glue one, two or three foods (based on ability) on the paper plate (the classroom assistants will be assisting with this activity). After the students successfully complete the activity give lots of praise and award each student with a superhero sticker

Lesson 3: Let's Make Pizza!

Objectives

Students will:

- Students will work together in the kitchen.
- Students will make and eat their own pizza
- Students will assist in the clean-up at the end of the activity

Content

PA Standards

Health

- 10.1.1.C1 Identify foods that keep our bodies healthy

Food Science and Nutrition

- 11.3.3.B Describe personal hygiene techniques in food handling (e.g., handwashing, sneeze control, signs of food spoilage).

Approaches to Learning Through Play

- AL.1.1.C1 Engage in cooperative, purposeful, and interactive play experiences that enhance learning.

Curriculum Connections

Health, Food Science and Nutrition, Approaches to Learning Through Play

Materials

- A handmade, illustrated recipe chart that shows the correct order that the ingredients will be placed on the pizza (Make this on chart paper using colored markers)
- Pizza pans
- Utensils (pizza cutter, spatula, spoons)
- Plates, plastic utensils, napkins
- Ready made whole wheat pizza crusts
- Pizza sauce
- Mozzarella cheese
- Sliced Vegetables (sweet peppers, broccoli, mushrooms, olives, tomatoes, pineapple, spinach)

Activity

During this activity, the parents of the students will be encouraged in advance to participate. A phone call home or an invitation sent home with the students will notify the parents or grandparents that they are invited to join the class for an afternoon of fun and learning. Make sure to get a head count so that you know the correct amount of supplies that you will need. Our school is fortunate to have a fully functioning kitchen for use by the Special Education/Life Skills students. This is where students will work together with each other and their parents preparing and eating a healthy pizza.

First, gather everyone together and have them sit in a circle, criss-cross-applesauce, on the rug. Have the parents and students introduce themselves to each other. Next, show everyone the book, *Pizza at Sally's*, by Monica Wellington. This is a fun story about how pizza is made, from growing the vegetables for the pizza to putting all of the ingredients in the oven. Explain to the students that they will be making a pizza of their own, but first there are some rules they must follow.

Rules For Cooking In The Kitchen

1. Wash Your Hands
2. Sneeze Control
3. **NO** Picking your Nose
4. Do Not eat food that falls on the floor
5. Share the workspace
6. Be patient
7. Follow directions
8. Clean up when you are finished

Next, the parents and teacher will assist the students in making their own personal pizza, using an assortment of ingredients, including healthy vegetables. Encourage the students to use a variety of ingredients. This activity will promote creativity, lifeskills, and socialization. The students will learn to work together in the kitchen and cooperate with each other. While the adults place the pizza in the oven, the students will assist in setting the table.

The lesson will be wrapped up when the students and the adults sit down together to eat the tasty treat that the students have created. The children will take pride in their accomplishments and perhaps encourage the parents to provide more cooking experiences for their children at home. After the meal, be sure to have the students assist in the kitchen cleanup.

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Appendix: Pennsylvania Academic Standards

Math

- Measurement, Data and Probability
- **CC.2.4.1.A.4** Represent data using tables/charts.

Concepts of Health

- Health, Safety, and Physical Education
 - 10.1.1.C1** Identify foods that keep our bodies healthy

Approaches to Learning Through Play

- Constructing and Gathering Knowledge
 - AL.1.1.C1** Engage in cooperative, purposeful, and interactive play experiences that enhance learning.
- Organizing and Understanding Information
 - AL.2.1.A** Complete a task, despite interruptions or classroom disruptions.
- Learning Through Experience

AL.4.1.A1 Relate knowledge learned from one experience to another.