**Pizza Please: An Interactive Nutrition Evaluation for Second and Third Grade Students**

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Evaluation tools using only a pencil-and-paper format can be uninviting for participants in a theory-based nutrition education program. Therefore, tools that are appealing and fun for participants need to be developed and validated to capture changes brought about by nutrition education programs. The purpose of this research was to develop an interactive evaluation tool to collect pre- and postdata concerning dairy product, fruit, vegetable, and soft drink consumption from second and third grade students participating in a general 8-week nutrition education program designed with a Social Cognitive Theory framework.

**Pizza Please** was developed as a user-friendly testing tool. One of the two components of **Pizza Please** was a game, which featured a colorful game board (Figure 1) and 12 situational mealtime game questions. The game board consisted of a life-size pizza with detachable pizza toppings (green pepper, mushroom, and pepperoni) and 4 placemats showing a table setting with an outline of a pizza slice on the plate. One of the situational mealtime game questions was “You are using good manners to eat your macaroni and cheese. How should you hold your fork?” Answer choices for this question were “like a pencil” or “in your fist like a bat.” When a team answered a game question correctly, the team was allowed to choose a pizza topping to be placed on the pizza slice on their team’s placemat. The object of the game was to correctly answer the most situational mealtime game questions.

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The other component of **Pizza Please** was a developmentally appropriate questionnaire (Figure 2), which was used to collect participant data. The questionnaire was based on validated questionnaires designed by other nutrition education researchers, as well as on nutrition-related concerns within this population recognized by public health officials, such as decreased consumption of dairy products, fruits, and vegetables and increased consumption of soft drinks.

Fifteen questions queried students’ dietary and physical activity behavior, such as consumption of dairy products, fruits, and vegetables on most school days, by using a yes/no question format. As well, students were asked to indicate how often they drank soft drinks (everyday, 5 or 6 days a week, 3 or 4 days a week, 1 or 2 days a week, or never). Two questions were posed in a yes/no format to determine if children participated in sedentary activity or physical activity on most school days. Positive responses were coded with a higher number.

Sixteen questions assessed student’s nutrition knowledge. One section measured a child’s ability to correctly identify a food that did not belong to a specific food group within the Food Guide Pyramid. Two other sections within the knowledge section asked children to match the correct nutrient to the food in which the particular nutrient was found and to the function that the specific nutrient performed. Correct answers were coded as 1, and incorrect answers were coded as 0. Thus, the highest total score for the knowledge section was 16.

Content validity, reliability, and readability of **Pizza Please** were determined prior to implementation. To determine content validity, 19 teachers pilot-tested the game and questionnaire with more than 300 students. A process evaluation allowed all school officials and Extension educators to detail strengths or weaknesses. Cronbach coefficient α determined the reliability of 15 dietary behavior questions (α = .74) and 16 nutrition knowledge questions (α = .77). Flesch-Kincaid Readability (2.3) was at a second grade level as determined by Microsoft Word. In addition, educators read aloud each question and answer choice during the evaluation process to help guide students through the questionnaire.

The interactive nature of **Pizza Please** was evident by the manner in which the evaluation was conducted. Students worked in teams to answer game questions while simultaneously completing the questionnaire individually. To begin playing **Pizza Please**, State Cooperative Extension educators placed the large pizza and 4 placemats on a display board using Velcro, divided children into teams of 4 to 6 players,
and distributed a questionnaire to each child. Next, educators alternated asking each team a different game question. A pizza topping was awarded and placed on the team’s pizza slice for a correct answer. The unusual aspect of Pizza Please was that 2 “Go To” questions were randomly included as 2 of the game questions. Each “Go To” question directed students to temporarily stop playing the game as a team and to complete a specific section (knowledge or behavior) within the questionnaire as an individual. Educators read each question on the questionnaire as students marked their responses. After the specific questionnaire section was completed, children continued answering game questions.

After all game and questionnaire questions had been answered, a bonus round was played. All teams were given a piece of paper and a pencil. Teams were instructed to choose how many pizza toppings they would like to wager (the team could only wager as many pizza toppings as the team had earned). This amount was recorded on the piece of paper. Next, the educator read aloud the bonus question. Each team then read aloud the team’s answer and the number of pizza toppings wagered. If the team’s response was correct, the number of wagered pizza toppings was added to the team’s pizza slice. If the team’s response was incorrect, the number of wagered pizza toppings was removed from the team’s pizza slice. The team with the most pizza toppings on their pizza slice at the end won the game. Forty-five minutes were needed to complete Pizza Please. This engaging design provided children with a comfortable testing environment.

In summary, Pizza Please is a developmentally appropriate and interactive evaluation tool for elementary students. Educators using Pizza Please obtain important data to enhance theory-based nutrition education programs. Students gain social skills by working in teams to answer game questions and personal nutrition knowledge and behavior information by working alone to complete the questionnaire.

NOTE

Pizza Please is available from the corresponding author.

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REFERENCES