A retrospective survey was distributed to teachers at the end of the 2013-2014 school year to assess behavior changes of youth who had participated in the *Youth Understanding MyPlate (YUM)* curricula by University of Florida/IFAS Extension through the Family Nutrition Program. Evaluation was conducted with a sample of teachers (n=68), representing 1,193 youth. There were 14, 28 and 26 teachers who responded for grades kindergarten, first, and second, respectively. All youth participated in at least six educational sessions lasting forty-five minutes each over a period of nine months. Through the survey, teachers identified how many total students were in their class, the grade level of the class, and the number of students who were now doing more of a desired healthful behavior compared to the beginning of the school year. Behaviors assessed included eating more vegetables, fruit, whole grain foods, and low-fat or fat-free dairy foods; being more physically active; and practicing proper hand washing.

Following the program, teachers on average reported an increased number of students with improved behavior in all categories (see table below). The greatest increases for eating behaviors were for fruit and eating a healthy snack, both 71% of total students.

<table>
<thead>
<tr>
<th>Number of students who NOW eat more VEGETABLES:</th>
<th>Number of students who NOW eat more FRUIT:</th>
<th>Number of students who NOW eat more WHOLE GRAIN FOODS:</th>
<th>Number of students who NOW eat fruit and/or vegetables as a SNACK:</th>
<th>Number of students who NOW eat more low-fat/fat-free DAIRY:</th>
<th>Students who participate in more PHYSICAL ACTIVITY:</th>
<th>Students who now practice proper HAND WASHING (Fight BAC):</th>
</tr>
</thead>
<tbody>
<tr>
<td>65% (771)</td>
<td>71% (852)</td>
<td>64% (768)</td>
<td>71% (851)</td>
<td>65% (778)</td>
<td>78% (935)</td>
<td>87% (1035)</td>
</tr>
</tbody>
</table>

Teacher comments included the following:

- They thoroughly enjoy when Ms. Tesar comes to visit. They learn about things we do not have in our curriculum. It is an excellent program.
- Students are aware of how to live a healthy life. They will make better food and exercise choices.
- It gives students a better understanding of the food groups and how to stay healthy.
- They love to go see the nutrition lady and always come back excited about their experiences.
- The students are more interested in eating healthier.
- Students think twice about what they eat. They are eating better, washing hands more often and using physical activity.
- Students have the vocabulary to talk about different foods. They seem to recall what was taught about healthy foods. I think they are more interested in trying foods.
- She was very enthusiastic and the children would notice things from her lesson during breakfast.
- Don't get sick as much. Stronger.
- My students really took to the germs lesson. They now wash their hands more and are more aware of where germs are and how they are spread.
- Hand washing to help kill the germs. Healthier choices at breakfast and lunch. They want to play outside more and also encourage their families to buy healthy foods.
- I have seen my students wash their hands properly and I have heard them talk about eating more vegetables. I have also seen them eat more fruit in the morning for breakfast.
- They get excited to eat a healthy lunch! Fight BAC was also taught.
- They know what each food group is and what it does to the body.
- They now understand the importance of eating healthy and getting exercise.
- They talk about eating healthy.
- They got so excited about trying new things. It opened great food discussions.
• Yes. They may try more new foods at lunch.
• They can all talk about making healthy eating choices.
• The students are able to find healthy snacks. Students are looking at the packages with whole grain labels.
• My students are always talking about the information they learned from the program. They have used this background knowledge in science and reading.
• My students love the program and they correctly answer the questions regarding nutrition.
• They seem open to try new foods.
• Yes, many students bring fruits for snack time now. Gave them more knowledge on how to eat healthy and what foods you need to do that.
• Gives them reasons why eating healthy is important.
• Students show/demonstrate that they understand objectives taught in the program. They have searched for whole grain labels; talked about sharing information with their families and talked about ways they have used learned information to change their eating habits!
• More students are washing their hands and notice when other students don’t! They remember the different symbols on packages and what they mean.
• When students see food that Ms. Karen has talked to them about, they get excited!
• My students are more aware of healthy foods and how it affects their brains and bodies!
• At lunch time, students are making good choices. They get less junk food. We dance as we count to 100 for physical activity in the classroom!
• They are more aware of their food choices.
• It has made them aware of what they eat.
• Child reconnected to fruits heard in lessons. The children remembered the body parts from the song on muscles. The children put foods into food groups. The children were excited to bring the parents letters and the completed handouts home to their parents.
• The students often talk about things they learned in the lessons when we are getting lunch and when we are talking about other things.
• The children often refer back to the lessons and make “connections” during class.
• Yes, they are able to verbally provide and answer to all the parts of MyPlate.
• The kids get very excited after the lessons.

They often come back from lunch and tell me what they ate and what groups the foods are in!
• They love it! They are much more aware of food choices and how to pick healthier foods. My class really looks forward to these classes!
• They tell me about good choices they made at home and lunch that they try new food before deciding they don’t like it and we exercise and have even graphed our daily exercise in minutes for math.
• The students have definitely become more aware of what they eat. They comment and make reference to nutrition and what vegetables are good for what body functions when we visit our garden.
• They know their food groups!
• My students look for the whole grain label on packages any time they eat something. To help promote nutrition in the classroom, I have made it a contest as to which students can collect the most whole grain labels!
• Many of these students do not have parents that taught them about nutritious eating.
• They notice/appreciate healthy snacks. They restate knowledge learned during other subject areas.
• They are more aware of what they’re eating and more willing to try new foods.
• It has made them more aware of the food groups and healthy food choices. We discuss whenever food comes up in a book or lesson. (Great program!)
• They have tried more diverse food items like hummus, yogurt and fruits.
• Students are excited to share what they know about eating healthy with their families.
• My students are making better choices for snacks and lunches. I’m finding that more students are eating raw vegetables during snack time.
• The students are more aware of the healthier food choices. When bringing snacks they suggest fruits. When mentioning McDonalds, they say it is not healthy for you!
• The students really have enjoyed learning about nutrition. When they bring healthy snacks they always show me what they brought.
District School Board of Pasco County: A retrospective survey was distributed to parents at the end of a series of education to assess behavior changes of students who participated in the Family Nutrition Program and self-report any changes at home as a result of a combination of education to youth complemented with newsletters sent home to parents. All youth, in K through grade 2, participated in at least six Youth Understanding MyPlate (YUM) lessons lasting 45 minutes each over a minimum of six weeks. Data were collected from 110 parents. The assessment had a response rate of 33% with 110 parents responding out of a possible 335. The brief survey included items to assess child intake of fruit, vegetables, whole grain foods, and low-fat or fat-free dairy foods with responses based on whether the behavior had increased at home as a result of FNP programming. Other behaviors assessed included the child asking for healthy foods or drink more often, helping prepare a snack or meal, using less screen time, and spending more time playing actively.

<table>
<thead>
<tr>
<th># of parents</th>
<th>52% (57)</th>
<th>75% (82)</th>
<th>60% (66)</th>
<th>48% (53)</th>
<th>51% (56)</th>
<th>74% (81)</th>
<th>55% (60)</th>
<th>68% (75)</th>
<th>6% (7)</th>
</tr>
</thead>
</table>

Similarly, parents were asked to report any changes they had made related to offering fruits and vegetables to their children more often, purchasing low-fat or fat-free milk and whole grain foods, offering new healthy foods to try, and asking their children to help cook or make snacks more often.

<table>
<thead>
<tr>
<th># of parents</th>
<th>77% (85)</th>
<th>45% (49)</th>
<th>42% (46)</th>
<th>56% (62)</th>
<th>69% (76)</th>
<th>9% (10)</th>
</tr>
</thead>
</table>

Youth Knowledge Evaluation - Youth Understanding MyPlate (YUM)

Knowledge of youth in first and second grades was evaluated as an outcome upon completion of the UF/IFAS Extension Youth Understanding MyPlate curriculum. The curriculum was implemented as six 45-minute lessons over a nine month period (approx. one lesson per month). The same multiple-choice, 12-item survey was used at pre-test and post-test to assess nutrition knowledge related to MyPlate, foods with key nutrients, and the benefit of nutrient-rich foods/nutrients. A different set of survey items were used for grades 1 and 2, each with a total score of 12. Example items were “How many food groups make up MyPlate?” and “Which food has lots of calcium?”

For youth in first grade (n=206), the average score increased from pre- to post-evaluation (7.2 to 8.4). Similarly, the average score for youth in second grade (n=230) increased from 6.2 to 6.9.
Xtreme Cuisine Cooking School: Youth Knowledge and Behavior

Pasco County Parks & Recreation Summer Day Camp youth (n=17) participated in Xtreme Cuisine programming for a one-hour lesson per week over five weeks. Lessons include food demonstrations and opportunities for youth to assist with food preparation while learning about nutrition concepts and food safety. Participants completed a 12-item pre- and post-evaluation related to food safety and food preparation. Example knowledge questions were “Where should you store leftover pizza?” and “What is the safest place to thaw frozen chicken?” The average knowledge score increased from 4.71 to 5.23 out of a total score of 6 from pre- to post-evaluation. Upon program completion, five more students reported greater ease using a vegetable peeler than at the beginning and six more students than at the beginning reported being able to follow a recipe easily.

Elder Nutrition and Food Safety (ENAFS): Older Adult Knowledge Gain and Intent to Change

Older adult programming for Pasco County Elderly Nutrition Services was evaluated using post surveys with a sample of older adults (n=77), 60 years or older. Following a 60-minute UF/IFAS Extension Elder Nutrition and Food Safety lesson, participants were asked to complete a three-item survey to self-report knowledge gain, intent to change, and a specific behavior change intention. A three-item Likert response scale was used for the first two items and specific behaviors to change were listed for the final item. Examples of specific behaviors are, “I plan to increase consumption of foods high in fiber,” “I plan use the Nutrition Facts Label to choose foods that are lower in sodium, fats, and added sugar,” and “I plan to choose healthy beverage options more often.” Lesson topics were from Module 5: Healthy Eating for Older Adults.

Descriptive analyses of data were conducted by module. Over 90% of total participants reported learning some or a lot of knowledge (n=7) and over 75% reported that they would make a related behavior change (n=58).

<table>
<thead>
<tr>
<th>Module</th>
<th>Percentage of Participants Who Reported Learning Some or A Lot of Knowledge</th>
<th>Percentage of Participants Who Plan to Make Changes</th>
<th>Percentage of Participants Who Identified at Least One Specific Behavior to Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>80 attended - Module 1: Unique Nutritional Needs of Older Adults – MyPlate (n=41)</td>
<td>98% (46)</td>
<td>81% (38)</td>
<td>54% (26)</td>
</tr>
<tr>
<td>55 attended - Module 5: Building a Healthy Breakfast (n=41)</td>
<td>98% (400)</td>
<td>76% (31)</td>
<td>46% (19)</td>
</tr>
<tr>
<td>48 attended - Module 5: Healthy Eating For Older Adults – No Cook Foods (n=36)</td>
<td>94% (34)</td>
<td>78% (28)</td>
<td>36% (13)</td>
</tr>
<tr>
<td>Module 7: Take-Out &amp; Ready-to-Eat Foods (n=41)</td>
<td>90% (37)</td>
<td>59% (24)</td>
<td>49% (20)</td>
</tr>
<tr>
<td>Module 7: Food Safety Basics (n=54)</td>
<td>93% (50)</td>
<td>81% (44)</td>
<td>69% (37)</td>
</tr>
</tbody>
</table>

Participant comments included the following:

- Very Good. Speaks very clear.
- I haven't been eating breakfast. From now on I will be eating breakfast so I will be getting the energy I need.
- The teacher is patient and kind. She is very informative. We always look forward to her visit.
- The lesson today was very informative.
- Know what I can do to add more protein each morning.
- Good all around.
- Linda is always helpful and bright and cheery. She brings a lot of info. Good speaker.
- Gives us good information.
- I think the teaching about breakfast was very good.
• Very good presentation.
• Linda gives so much information. It is a great help. Thanks.
• Excellent presentation.
• I agree that breakfast is the most important meal. I say feast for breakfast; graze for lunch and eat less for dinner.
• It was a very good presentation. Thank you very much.
• 68 and never too late to learn. Want to learn more about Stem cells.
• 69 and should eat more peanut butter.
• Thank you for valuable information.
• All the comments were ok. I enjoyed what you talk about.
• Enjoyed presentation.
• Lots of good information
• Very interesting.
• Use microwave and crock pot.
• Good reminder to eat healthy.
• This is our first time here. Looking forward to another visit.
• These are always good to listen to, and it will help us be aware of what we eat.
• Very good teacher.
• Excellent presentation.
• Always enjoy this program.
• Thanks for the info.
• I enjoy the lesson on nutrition. It teaches me how to eat as I age.

Success Stories:

“Using the Knowledge they’re Learning” - A kindergarten student at a Pasco County school was called to the office for a behavior issue and had to call his grandma. The student started his conversation with her by saying in a serious tone of voice, “Gwamma, I learned something vewy important today.”

The principal, who was waiting for the youngster to get to why he had to call, suppressed a smile, as she knew this was a diversionary tactic to avoid the “distasteful” subject of his behavior with his grandmother. She couldn’t wait to hear what he had to say!

He continued, “I learned that I need to have thwee gwasses of milk each day. So when I get home today, make sure I have a gwass of milk - and with no chocwit in it!” he added emphatically. The principal had seen the FNP program assistant in the halls, doing her rounds for the month with the kindergarten classrooms, so she sought her out after classes to share the story. She was delighted to see how the nutrition messages taught by the Family Nutrition Program are reaching the students at her elementary school, even though she witnessed this demonstration of knowledge in a somewhat odd and humorous setting!

“Healthy Snacks on a Budget”
With a little time and using store coupons you can eat healthy and stay on-budget. It is “almost” as if you are getting paid to shop! Two parents’ groups (of students attending two elementary schools on eastside) will be starting a couponing club to help anyone interested to learn the tricks they learned in FNP class this month. They will be bringing in any coupons not being used by their household to the school meeting and help other parents learn how it is done. One parent of a child attending New River Elementary said, “I get paid to shop!” (Everyone’s eyes popped out with amazement!) I explained how we do it at our office, and the parent coordinator at the school said she would start a couponing club like ours so that parents could share their coupons and successes. The FNP program assistant pointed out that even if they get to save 50% of their $100 weekly grocery bill by spending only two hours researching sales and clipping, it is as as if they were getting paid $25 an hour! (Much more than most of our SNAP families make hourly in today’s economy).

For more information contact Betsy Crisp, MS, LD, Extension Faculty IV – Family & Consumer Sciences and FNP Coordinator (since 2007).

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