



NUTRITION EDUCATION AND FOOD ACCESS EVALUATION REPORT

20
22



ACKNOWLEDGMENTS

This project was supported by a United States Department of Agriculture Farm to School Grant, the W. K. Kellogg Foundation, the Wilbur and Hilda Glenn Family Foundation, and the Social Impact and Equity Fund of the Food Research and Action Center (FRAC). We are grateful to the early care and education providers, staff, parents, and children for their gracious assistance in contributing to this project.

2022 Report prepared by:
Caree J. Cotwright, PhD, RDN
Dr. Caree, LLC
HHSP Lead Evaluation
Specialist

ABOUT US

The Hand, Heart, and Soul Project is a not-for-profit organization that provides children and families access to nutrient-dense foods and works with early childhood education programs to develop holistic programs focused on health, wellness, nutrition, and education. We celebrate with, advocate for, and advance the needs of our community. The overarching goal of the Hand, Heart, and Soul Project is to build strong, healthy communities through people development, policy and advocacy, best practices, and wellness. Our programming uplifts not only the community we serve at model demonstration sites, but impacts the lives of socially and economically marginalized young children and their families across Clayton and beyond. To learn more about the Hand, Heart, and Soul Project, visit www.HandHeartSoulProject.org or follow us on Facebook, Instagram, or YouTube.



PROJECT OVERVIEW

For this project, HHSP provided agriculture education curriculum, supplies, and training to five ECE sites in the Clayton County area that serve 40% or more children who are eligible for Free or Reduced Price (FRP) CACFP meals. Clayton County is a high need, under resourced area. Clayton County School System's FRP Meals Rate in the school system is 92.98% and within the City of Forest Park 45% of children live in poverty. The HHSP project team aimed to reach approximately 500 ECE children and their families at five ECE sites. In order to ensure the sustainability of agriculture education activities initiated by this grant, five ECE sites received: 1) re-usable supplies and agricultural education; and 2) Consultation from HHSP on how to imbed agriculture education into their individual programs. We are actively fundraising to expand support for ECE sites' programs.

Our project examined the use of agricultural education in the ECE setting in Clayton County, GA. We also measured teachers' self-efficacy and level of readiness to employ Farm to ECE (FTECE) practices. We explored parents' and community members' perceptions about fruit and vegetable access and promotion. The project was determined to be exempt from Institutional Review Board approval.



SPECIFIC AIMS & PRIMARY AUDIENCE

Specific Aims

The specific aims were to:

Specific Aim 1. Assess baseline implementation of FTECE policies to promote nutrition in the ECE setting using the Go NAPSACC "Farm to ECE" Self-Assessment.

Specific Aim 2. Assess baseline teacher self-efficacy to use FTECE approaches to teach agricultural education to young children using the CAN Teach Questionnaire.

Specific Aim 3. Examine teacher and parent acceptance of the use of the FTECE approaches to teach nutrition to young children and families through qualitative measures.

Primary Audience

The primary audience included a total of five ECE sites (n=5) in Clayton County, Georgia. A lead staff person(s) at each ECE site had an initial consultation with HHSP staff to determine their sites' FTECE goals and needs. Goals included starting or expanding a garden, increasing agriculture education in the classroom, starting a farm stand, and nutrition focused family engagement. The HHSP provided each site with technical assistance, training, and resources to meet their goals. Teachers completed an action plan to monitor their progress. The five ECE sites also received taste test boxes from Small Bites Adventure Club to increase opportunities to engage children in tasting fruits and vegetables. One site also hosted a farm stand for their ECE community.

PROJECT MEASURES

Farm to ECE Teacher Survey

Teachers also completed a brief survey to determine their baseline confidence in implementing Farm to ECE approaches using a 7-point Likert scale ranging from not confident at all to extremely confident. Teacher needs related to increasing agricultural education in their classrooms were assessed using a specific menu of options selected by teachers. The sites that received Taste Test Boxes also reported on the effectiveness of the use of the boxes in ECE classrooms using a 5-point Likert Scale ranging from Strongly Disagree to Strongly Agree. Teachers at four sites completed the survey.

CAN-Teach (Confidence about Nutrition) Questionnaire

The previously validated and modified CAN Teach Questionnaire measured baseline teacher self-efficacy. The self-reported, 3-section, 7-point Likert-scale assessment captured teachers' interest on key topics, their level of confidence in key areas and their readiness to implement new skills. Teachers at each site completed the survey.

Nutrition and Physical Activity Self-Assessment (NAPSACC) FTECE Survey

The previously validated, self-reported Go NAPSACC FTECE assessment examined baseline policies and practices implemented at ECE sites. The Farm to ECE self-assessment included five priority areas (e.g., healthy foods provided, gardening practices, education and professional development, and written policies). Each priority area contained five to nine questions which allowed ECE providers to choose on a four-point scale on how close their site was to meeting the FTECE best practices. The scale ranged from 1-4 with 1 being minimal implementation of best practices to 4, being full implementation of best practices. Responses for the survey were converted to dichotomous responses (Yes /No) to indicate full best practice implementation.

PROJECT MEASURES

Parent Focus Group

A parent focus group explored in greater detail their perceptions and needs about fruit and vegetable access, agricultural education provided for children, and use of a local ECE farm stand.

Community Forum

The Southern Roots Community Forum was hosted by HHSP. Panelists and community members discussed the importance of how growing food in communities, early child care programs, and schools can provide more access to healthy, nutrient-dense fruits and vegetables for local communities. Early educators, parents, community organizations, and other leading experts fostered community dialogue and garnered specific recommendations for change.

Data Collection

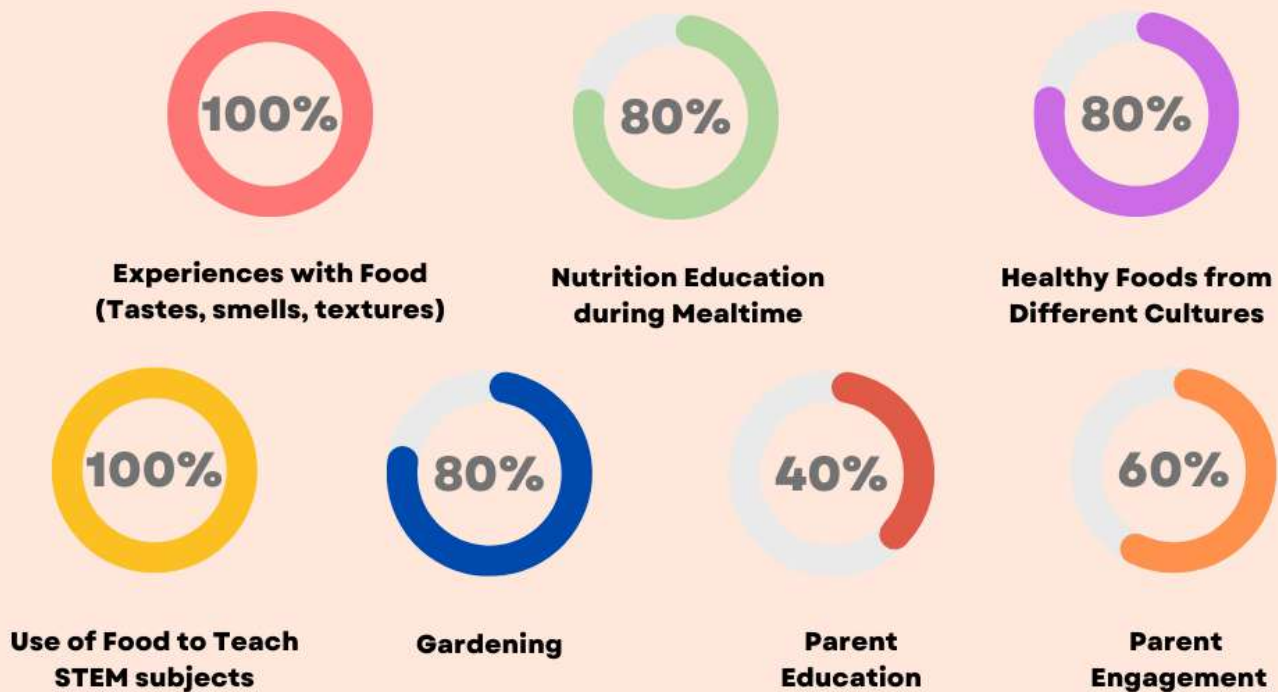
Participating ECE sites completed baseline surveys in-person with assistance from HHSP staff. Parents were invited to participate in a focus group with a qualitative researcher via Zoom for 60 minutes. Parents responded to a series of questions about food access, community needs, agricultural education, and use of a local ECE farm stand.

Data Analysis

Quantitative results are reported as means, standard deviations, and percentages. Qualitative results from the parent focus group and Community Forum were audio-recorded and transcribed verbatim. Research experts summarized and coded themes using inductive methodology.

PROJECT RESULTS

Table 1. Teacher Confidence to Use FTECE Approaches (N=5)






% of Teachers at 5 ECE sites that were Confident to Extremely Confident about Implementation of FTECE Approaches
Based on 7-point Likert Scale from Not Confident to Completely Confident

Teachers at ECE sites reported on their confidence to implement FTECE approaches. Table 1 shows the percentage of respondents that were very confident to confident that they could implement approaches in specific topic areas. Teachers reported the most confidence in providing experiences with food.

Conversely, teachers reported lower confidence with providing FTECE parent engagement (60%) and parent education (40%).

PROJECT RESULTS

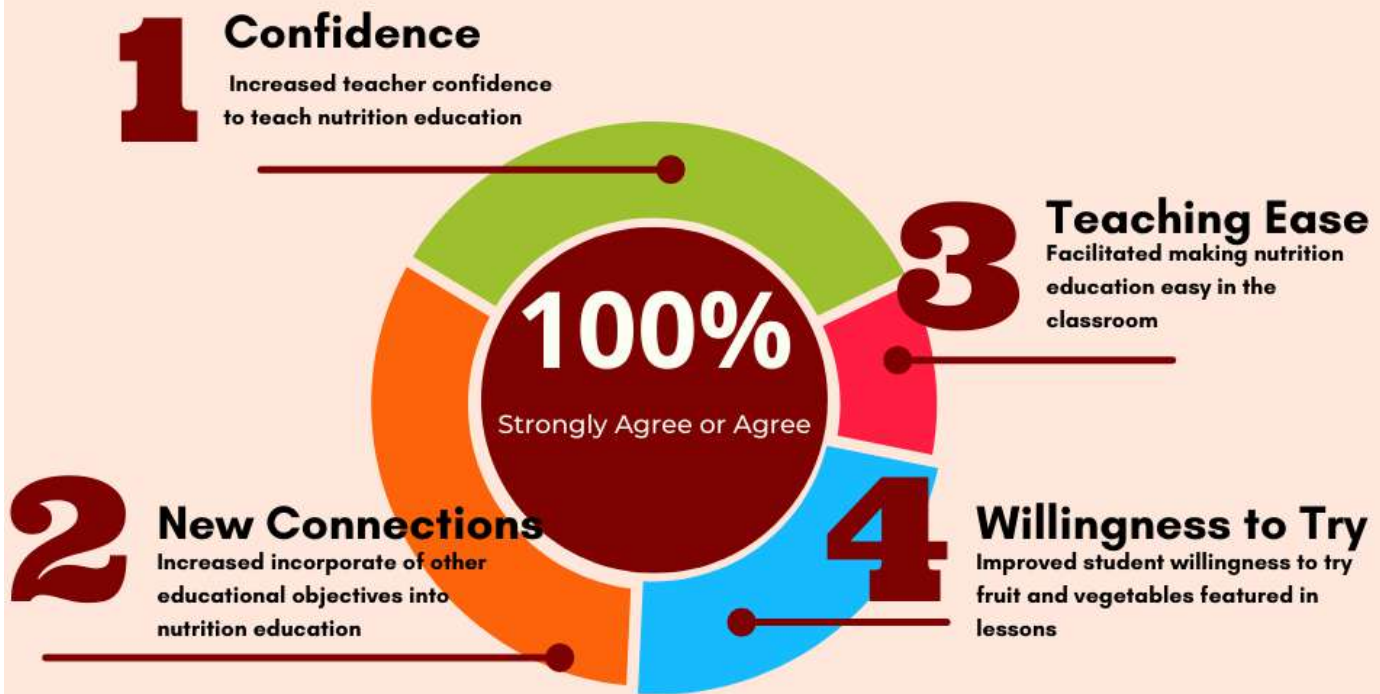
Table 2. Reported Needs for Teacher Resources to Increase FTECE Approaches (N=5)

CONFIDENCE TO TEACH NUTRITION EDUCATION <ul style="list-style-type: none">✓ Books about fruits or vegetables, plant growth, farming especially farmers of color✓ Fruit, vegetable, and farming props✓ Pictures, books about food or farms that reflect the culture, race, or ethnicity of enrolled children and staff✓ Posters, pictures, and books about food or farms that expose children to people, foods, and cultures different from their own 	CONFIDENCE TO TEACH GARDENING <ul style="list-style-type: none">✓ Access to Gardening Curricula✓ Access to plants with different flavors, colors, scents, textures✓ Activities about plant growing seasons✓ Gardening training 	CONFIDENCE TO ENGAGE PARENTS IN NUTRITION EDUCATION <ul style="list-style-type: none">✓ Access to information about what farmers in area grow and when products are available✓ Taste tests & recipe handouts that reflect the cultural, ethnic, or religious food traditions of enrolled children✓ Access to healthy food by sharing garden produce, or hosting a mobile market✓ Handouts on how to buy healthy foods at lower costs and use of food assistance✓ Parent training led by experts 
--	--	--

Teachers at ECE sites reported on specific resources that would assist in the implementation of FTECE approaches. As shown in Table 2, teachers highlighted a variety of ideas about support for teaching nutrition education (e.g., books, posters, farming props), teaching about gardening (e.g., curricula, access to plants, training), and engaging parents in nutrition education (e.g., access to information, taste tests, mobile markets, and parent training).

PROJECT RESULTS

Table 3. Taste Test Box Survey Responses (N=4)

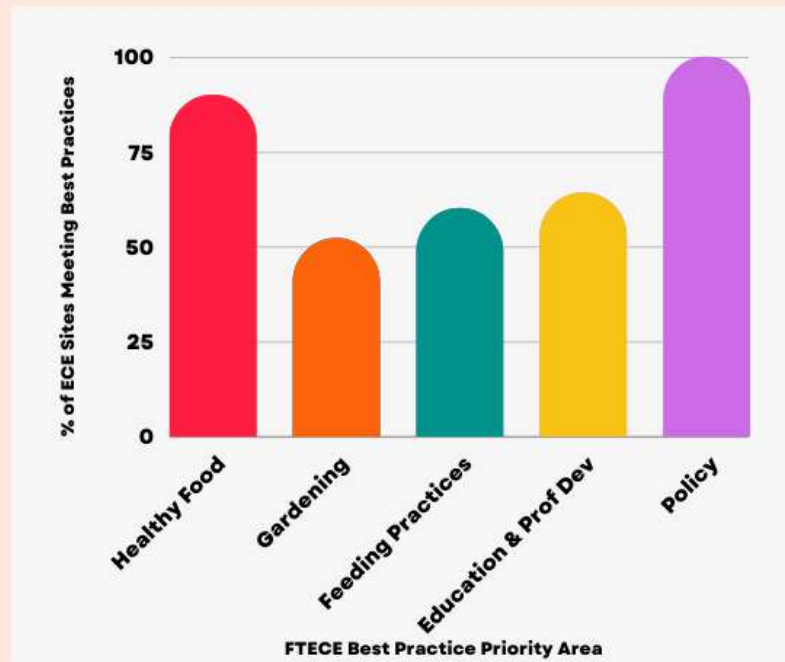


*ECE teachers rated Taste Test Boxes using Likert scale ranging from Strongly Disagree to Strongly Agree

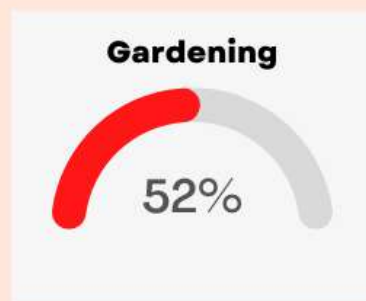
ECE sites received taste test boxes from Small Bites Adventure Club to increase opportunities to engage children in tasting fruits and vegetables. Teachers reported on the effectiveness of the use of the boxes in ECE classrooms using a 5-point Likert Scale ranging from Strongly Disagree to Strongly Agree. One hundred percent of participants strongly agreed or agreed that the Taste Test Boxes increased their confidence to teach nutrition education, helped make teach nutrition education easy, incorporated making connections between food and other educational topics, and improved children's willingness to try fruits and vegetables that were featured in lessons.

PROJECT RESULTS

Table 4. NAPSACC FTECE Survey (N=5)



A modified version of the Nutrition and Physical Activity Self-Assessment for Child Care (NAPSACC) Farm to ECE survey included five priority areas (e.g., healthy foods provided, feeding practices, gardening practices, education and professional development, and written policies). Each priority area contained five to nine questions which allowed ECE providers to choose on a four-point scale how close their site was to meeting the FTECE best practices. The scale ranged from 1-4 with 1 being minimal implementation of best practices to 4, being full implementation of best practices. This graph indicates best practices that were fully implemented.



Using the Nutrition and Physical Activity Self Assessment for Child Care (NAPSACC) Farm to ECE Survey, teachers reported on current implementation of FTECE best practices in specific topic areas. Table 4 indicates that all ECE sites (100%) had a written policy for FTECE approaches at their centers. Four out of five ECE sites reported having a garden. Teachers reported the lowest implementation for best practices related to gardening (52%).

PROJECT RESULTS

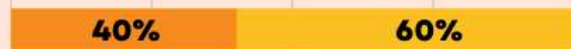
Table 5. Percentage of Sites Reporting Interest and Readiness to Teach Nutrition Education (N=5)

Interest in Teaching_

Healthy Development & Growth



Nutrition



Implementation of FTECE



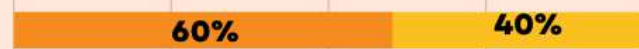
0 25 50 75 100

Level of Readiness to Teach

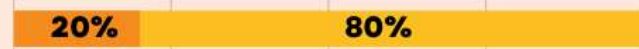
Integrate of FTECE Approaches



Deliver Nutrition Curriculum



Implement Daily Nutr Ed



Involve Community in Nutr Ed









0 25 50 75 100

Percentages based on teachers' reported scores from a 5-point Likert scale 1 = Not at all 2 = I probably should, but am not sure I want to 3 = Some interest to learn new things 4 = Yes, ready to learn & practice 5 = Already actively learning new things in this area

Table 5 presents the percentage of teachers reporting interest in teach specific nutrition topics and their level of readiness to to incorporate specific nutrition practices. All teachers were ready to learn or already actively learning about teaching on topics related to healthy development and growth, nutrition, and FTECE implementation. Most teachers were ready to learn or already actively learning about implementing FTECE approaches and teaching nutrition education. Teachers reported the highest level of readiness (already actively learning) to teach daily nutrition activities (80%).

PROJECT RESULTS

Table 6. Mean Self-Efficacy Likert Scores for Involving Community Members With Children's Health Goals at ECE Sites (N=5)











Nutrition Practice	Mean Score
 Engage parents as partners in children's nutrition education	5.4
 Engage parent in FTECE approaches	5.4
 Educate parents about nutritious foods and healthy habits	6.2
 Make nutrition education activities available to parents for home use	6.2
 Incorporate external input on nutrition issues through a health council or advisory board	4.8
 Include nutrition information with parent handbook materials	6

Scores reported on a 7-point Likert scale based on teacher confidence to implement nutrition standard (0= not confident at all 1= barely confident, 2 = slightly confident 3 = somewhat confident, 4 = moderately confident, 5= confident, 6= very confident, 7=completely confident).

Using the Confidence about Nutrition (CAN Teach) Survey, teachers reported on their level of confidence in implementing specific nutrition practices. Table 6 shows the mean confidence scores for involving community members in children's health goals. Overall teachers were very confident about the implementation of these practices. Teachers indicated being confident about engaging parents in FTECE approaches and nutrition education (5.4) however, there is room for growth based on mean scores. Teachers had lower confidence about incorporating external input on nutrition issues through a health council or advisory board (4.8).

PROJECT RESULTS

Table 7. Mean Self-Efficacy Likert Scores for Nutrition Standard Implementation from ECE Sites (N=5)

Nutrition Standard	Mean Score
 Provide nutrition learning experiences with foods of different tastes, smells, textures; familiar and new foods	6.2
 Integrate nutrition into different forms of presentations, such as children's books, imaginative play	6.6
 Coordinate nutrition education during mealtimes and during curricular activities	6.4
 Use food and cooking methods to teach other subjects, (e.g. early math and science concepts-colors, patterns, sequencing, energy, growth)	6.6
 Implement a culturally appropriate healthy eating curriculum	6.4
 Teach children about different foods, including a focus on healthy foods from different cultures and traditions	6
 Integrate support for children to achieve a positive nutrition status into center practices	5.6
 Recommend policy change or organizational change to promote FTECE approaches	6
 Continue your own professional development to teach nutrition topics	6
 Teach children about ecology and food systems, such as local farms, how climate impacts growing foods and conservation	6





Scores reported on a 7-point Likert scale based on teacher confidence to implement nutrition standard (0= not confident at all 1 = barely confident, 2 = slightly confident 3 = somewhat confident, 4 = moderately confident, 5= confident, 6= very confident, 7=completely confident).

Using the Confidence about Nutrition (CAN Teach) Survey, teachers reported on their level of confidence in implementing specific nutrition practices with children. Table 7 shows that teachers are very confident about the implementation of these practices. Teachers indicated being most confident about integrating nutrition into different forms of presentations and using food and cooking methods to teach other subjects (6.6).

Teachers reported lower confidence about integration of children to achieve a positive nutrition practice into center policies (5.6).

PROJECT RESULTS

Table 8. Mean Self-Efficacy Likert Scores for Implementing Nutrition and Physical Activity Standards at ECE Sites (N=5)

Nutrition/Physical Activity Standard	Mean Score
 Encourage social interaction and conversation about the foods and events of the day during mealtime	6.2
 Model healthy eating behaviors	6.4
 Model appropriate physical activity/ movement behaviors	6.4
 Make good use of the environment to promote nutrition via FTECE approaches	6

Scores reported on a 7-point Likert scale based on teacher confidence to implement nutrition standard (0= not confident at all 1= barely confident, 2 = slightly confident 3 = somewhat confident, 4 = moderately confident, 5= confident, 6= very confident, 7=completely confident).

Using the Confidence about Nutrition (CAN Teach) Survey, teachers reported on their level of confidence in implementing specific nutrition practices in the classroom. Mean scores reported in Table 8 indicate teachers are very confident about the implementation of each of these practices. Teachers are highly confident in model appropriate behaviors (6.4)

PROJECT RESULTS

Table 9. Highest and Lowest Fully Implemented FTECE Best Practices at ECE Sites from NAPSACC FTECE Survey (N=4)

<u>Top Five Highest Scored Fully Implemented FTECE Best Practices</u>	<u>Top Five Lowest Scored Fully Implemented FTECE Best Practices</u>
Program has written policy related to Farm to ECE (topics such as planned and informal gardening and nutrition education for children, Professional development on FTECE topics)	Input from families used in menu planning so that meals and snacks reflect the cultural, ethnic, and/or religious food traditions of enrolled children
Local foods are offered as part of meals or snacks at least one time over the course of the year (e.g., fruits, vegetables, herbs, grains, dry beans or peas, dairy products, meat, fish, eggs, or other meat alternatives)	Over the course of the year, 7 or more different fruits and/or vegetables are grown in program's garden
Teachers rarely or never use children's preferred foods to encourage them to eat new or less-preferred foods	Program's garden helps children learn how food grows and produces enough fruits and/or vegetables to be part preschooler' meals or snacks
Teachers use a variety of materials to help preschool children learn about food and where it comes from (e.g., posters, pictures, and/or books about food or farms that expose children to people, foods, and cultures different from their own)	During the growing season, preschool children are offered cooking or taste test activities with fresh fruits or vegetables one time per week or more
ECE program helps connect families to healthy foods (e.g., information about what farmers in our area grow and when products are available, information about where and how to buy healthy foods at lower costs and/or how to use food assistance benefits to buy healthy foods, taste test opportunities)	During the growing season, structured gardening time provided to preschool children two times per week or more

A modified version of the Nutrition and Physical Activity Self-Assessment for Child Care (NAPSACC) Farm to ECE survey included five priority areas (e.g., healthy foods provided, feeding practices, gardening practices, education and professional development, and written policies). Each priority area contained five to nine questions which allowed ECE providers to choose on a four-point scale how close their site was to meeting the FTECE best practices. The scale ranged from 1-4 with 1 being minimal implementation of best practices to 4, being full implementation of best practices. This table indicates best practices that were fully implemented.

The NAPSACC Farm to ECE survey examined implementation of FTECE best practices in specific categories. Table 9 shows the top 5 highest and lowest best practices that were implemented fully (Likert scale of 1 (low implementation) to 4 (full implementation)). ECE sites reported full compliance with areas related to policy and healthy foods. Lower compliance was shown in best practices related to gardening.

FOCUS GROUP FINDINGS

The HHSP Lead Evaluation Specialist led a focus group with parents at Little Ones Learning Center to elicit parent perspectives about Farm to Preschool approaches. A focus group protocol was developed by a research expert and the HHSP team to: a) gain an understanding of how parents access healthy food in their community, b) examine parents' awareness of food insecurity and solutions, c) ascertain parents' interest in use of farm stands and community gardens, and d) garner parents' ideas about ways to promote fruits and vegetables to families within the community. The focus group consisted of 12 female parents with young children. Qualitative analysis yielded several overarching themes from parental perspectives.

Access healthy food (specifically fruits and vegetables) at farm stands, grocery stores, and farmer's markets.

Several parents reported about the benefit of using the farm stand at Little Ones Learning Center. Others reported going to farmer's markets and grocery stores to purchase fruits and vegetables. Although there were some local options, some parents reported having to go outside of the community to access high-quality, fresh fruits and vegetables. Parents were concerned about affordability of fruits and vegetables.



"As far as this community, parents go to farmer's markets, like in Forest Park. I remember some had to actually travel further from their community to obtain these vegetables. Some [parents] do not even have transportation to obtain them, but there's also a farm stand every Wednesday here at the center."-ECE Parent

Healthy foods are very expensive. However, Little Ones does allow half off when you use your EBT. So I drop by every chance I get."- ECE Parent

"You know, going to the grocery store and stuff is a bit expensive trying to buy healthy food. Like it's very expensive. So I kinda do like the fact that little ones has the farm stand where we have access to the fruits and vegetables." -ECE Parent

FOCUS GROUP FINDINGS



Address food insecurity through community efforts.

Parents were not very familiar with the term food insecurity. After discussion, however, they felt their community organizations could play a major role in addressing food insecurity.

"Community resources like transportation... sometimes it could be a shuttle that could actually give the families access to going to a farmer's market or to a grocery store." -ECE parent

"Do a hunger drive, Donate canned goods and perishables...go to local churches or places that have food pantries to give out free food boxes." -ECE Parent

"Food banks...they could actually have different farmers, different vendors that sell fresh fruits and vegetables, and..have it where they can access it in one location." -ECE parent

Use ECE Farm Stand and Community Gardens to directly influence fruit and vegetable consumption among families and teach children about healthy eating.



Parents were overwhelmingly supportive of the use of farm stands and community gardens to increase fruit and vegetable consumption for their families.

"My children are the ones who bring more fruits and vegetables into my household because at little ones, they feed them a variety of fruits and vegetables when they come home and they're talking about it and they want a lot of it, like recently...all my kids wanted Strawberries, strawberries, strawberries." -ECE Parent

"Some parents didn't even know what a kiwi was or an eggplant. So the kids would actually talk with their parents about what they ate in school and try to encourage them to probably like go out and buy it so they can cook it together. It [the garden] has generational impacts. So in reverse ways the children are teaching their parents about fruits and vegetables from their exposure." -ECE Parent

FOCUS GROUP FINDINGS



Address challenges related to healthy eating by going beyond access and empowering families to build skills.

Although fruits and vegetables are accessible, parents agreed that they needed to learn skills to prepare, cook, and store fruits and vegetables.

"More people would be willing to use a fresh food stand if they had more recipes. When you go to market in your mind, you wanna eat healthy, but by the time you get home, you like, what do I do with this? So you just let all of it spoil in the refrigerator and you just grab a bag of chips and keep going."-ECE Parent

It is very, very challenging, very challenging to get them...I wasn't brought up, you know, on a healthy diet either. You know, it was a bunch of snacks and, you know, fats and oils...so it's kinda hard, you know, to incorporate something into a diet that you're not used to dieting on."
-ECE Parent

Promote fruits and vegetables to families through the use of social media.



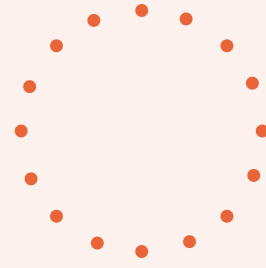
Parent suggested the use of social media to promote fruits and vegetables by offering virtual cooking class and learning from experts that are relatable and knowledgeable.

"Social media kind of rules the world. People will see, wanna share, let other people know. A cooking class would be great because when we grew up, we wasn't taught how to cook the proper way or how to cook with less oil and stuff like that."-ECE Parent

"When I am scrolling, I would like to see someone that looks like me, someone of color cooking healthy, and of course, kids are always a great way to capture someone's attention. Seeing someone that looks like me versus someone that's well put together...like you're giving me a lesson, instead of, you know, feeling like, you can relate to me...you come in, you're busy from work or your hair's a mess...you're just we're done it healthy."-ECE Parent

"The kids want to go to the garden every day. they want to eat everything. they eat the vegetables....the kids enjoy going out there playing in the dirt, getting their hands in it." -ECE Teacher

SOUTHERN ROOTS COMMUNITY FORUM



The Southern Roots Community Forum was hosted by HHSP on June 15, 2022. Early educators, parents, community organizations, and other leading experts fostered community dialogue and garnered specific recommendations for change. Southern Roots was a community dialogue led by experts, Sagdrina Jalal, SageD Consulting and Ashley Strickland, Leadership Team and Early Education, Little Ones Learning Center. The expert panel led a discussion about food history, culture, and traditions of food and its relation to food system and food sovereignty. The leaders also described how Farm to ECE approaches can be employed by communities to teach children and empower families to eat healthy foods.

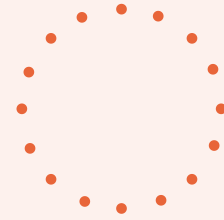
After the panel led a discussion these topics, community leaders and parents offered salient points to the discussion and asked the panelists thought provoking questions.

One core theme of the discussion was that **the Farm to ECE approaches implemented at Little Ones are life changing for teachers, children, and parents.** One educator explained that not only has she seen children and parents grow to love gardening and tasting fruits and vegetables, but that she has increased her own knowledge about healthy eating and witnessed improvements in her own health.



"When young children are introduced [to fruits and vegetables] the more likely they are to take some of those habits and benefit... benefit their entire family. So keep talking about the amazing things you are doing." -Forum Participant

SOUTHERN ROOTS COMMUNITY FORUM



The Southern Roots Community Forum yielded several key recommendations to empower communities to improve the health of families. The recommendations are to:



Develop strategic partnerships to support communities in the implementation of FTECE approaches.



Employ systematic thinking to provide solutions to challenges by utilizing innovation from multi-sector approaches.



Teach children and community members about the role of history, heritage, and leadership in promoting food sovereignty.



Build community capacity to support policies and practices to promote community wellness at local, regional, and national levels.



Promote implementation of FTECE as teachers and community members are highly supportive of garden education for children and families.



LIMITATIONS & LESSONS LEARNED

Limitations

The evaluation was a cross-sectional, non-experimental design. The data presented in this report are preliminary baseline survey responses from five ECE sites in Clayton County, Georgia. Although the results can only be generalized to ECE sites in our area, findings may inform need for successful implementation of FTECE approaches in the ECE setting. Future studies will include analysis of baseline and post-intervention data to examine changes in the implementation of FTECE policies and practices in ECE environments.

Lessons Learned

Providing center directors and teachers with resources, technical assistance, and training are key components to successful implementation. Finding an adequate balance for project implementation and the needs of ECE providers in classrooms is essential.



SUMMARY



Teachers at participating ECE sites are confident about engaging in Farm to ECE approaches. Teachers highlighted resources that would be helpful in the successful implementation of these approaches. Teachers indicated needing more assistance with gardening, engaging parents, and advocating for wellness promotion through a policy council. The HHSP team will continue to work in partnership with community members to engage in the promotion of wellness and FTECE approaches. Gardening education and farm stands provide an essential link for tying what children learn in the classroom into the lives of families. Parents and teachers reported life changing progress from being a part of the Little Ones community. Future projects may involve comprehensive interventions to benefit ECE sites, children, teachers, and families.

"It's [the garden] a big influence..my daughter, she loves fruits and vegetables. I don't have to make her eat fruits and vegetables." -ECE Parent





**THANK
YOU**

