Cultivating ECE Learners in Utah: ECE Providers' Perceptions on Edible Gardening

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Introduction/Need for Research

Farm to early care and education (ECE) is a natural extension of agricultural education, encompassing three elements that support the growth of children from birth to age five: local food sourcing, gardening, and food and agriculture education (National Farm to School Network, n.d.). Many ECE sites feature edible gardens that incorporate vegetables, herbs, and fruits in the ground, raised beds, containers, greenhouses, hydroponic systems, or other growing spaces. Gardening at ECE sites offers hands-on learning, fosters parent and community engagement, and improves lifelong health and wellness for children, families, and caregivers (Enderton, 2020; McCloskey, 2024). This manuscript's objectives are to (a) identify specific garden activities and (b) explore the benefits and barriers Utah's ECE sites experienced with growing edible produce. This study is crucial to ECE and Utah's agriculture industry, as more research is needed about the learning and student skill development created by education and gardening (Joshi et al., 2014). This study aligns with the American Association for Agricultural Education's (2023) research values of (a) examining social dynamics in human and life sciences and (b) fostering healthy living and nurturing positive youth development through AFNR systems.

Theoretical Framework

This study used the hybrid socio ecological model as a theoretical framework because the model's education outcomes include hands-on gardening activities to enhance learning and skills (Joshi et al., 2014). Farm to ECE focuses on aspects of the hybrid socio ecological model as it provides community members with gardening experiences and agricultural knowledge. Gardening influences educational outcomes across multiple levels of the socio ecological model. Student curiosity and families reinforcing learning at home are encouraged. Lastly, ECE sites are enabled to offer and maintain garden-based education through supportive state and national policies and resources. At broader levels, ECE sites are aligning gardening curricula with state standards.

Methodology

The Utah State Board of Education's Community Programs Team emailed an online Qualtrics survey to the entire population of 1,100 providers from the Child and Adult Care Food Program (CACFP) and Summer Food Service Program sponsors. We modeled survey items from farm to ECE state and nationwide studies (Arkansas Department of Agriculture, 2021; Riemer Bopp et al., 2022; Rooted, 2020). This study explored the activities, benefits, and barriers associated with growing an edible garden. Five researchers and practitioners familiar with farm to ECE or survey design established face and content validity. There were 372 usable responses, which was a 33.8% response rate. Lastly, we analyzed the data using IBM SPSS Statistics version 28.

Results/Findings

The ECE sites represented different program models, including Head Start and/or Early Head Start Centers (n = 74, 23.4%), child care centers (n = 67, 21.2%), family child care (n = 58,

18.4%), private preschools (*n* = 55, 17.4%), preschool or child care through K-12 school district (*n* = 33, 10.4%), state preschools (*n* = 27, 8.5%), and tribal (*n* = 2, 0.6%). These ECE sites were a mix of only part-time (*n* = 66, 20.7%), only full-time (*n* = 231, 72.4%), and both part-time and full-time programs (*n* = 32, 10%). The students ranged in age from infant to five years old.

A total of 298 ECE sites (80.1%) grew some type of produce in an edible garden. The top uses for gardens were educating children about how food grows (*n* = 138, 43.3%); serving garden-grown food in meals, snacks, or taste tests (*n* = 131, 41.1%); and teaching math, science, language, arts, nutrition, or health (*n* = 102, 32.0%). The five highest-rated benefits to gardening included connecting students with nature (*n* = 176, 55.2%); improving the health of administrators, staff, or teachers by consuming garden produce (*n* = 169, 53.0%); attending engagement events by caregivers (*n* = 152, 47.6%); children learning how food is grown (*n* = 138, 43.3%), and trying new foods by students (*n* = 113, 35.4%). Twenty ECE sites (5.4%) identified 12 barriers that prevented them from using an edible garden. The most identified barriers included the lack of water (*n* = 12, 3.8%), lack of materials–garden tools, seeds, etc. (*n* = 10, 3.1%), limited staff time to tend to garden (*n* =10, 3.1%), lack of gardening expertise (*n* = 8, 2.5%), and lack of support from staff, administrators, or other decision makers (*n* = 7, 2.2%).

Conclusions

Utah ECE providers reported similar uses of gardens to Wisconsin ECE providers who used garden-grown foods in meals or snacks, held taste tests or cooking demonstrations, and hosted family engagement events. Similar to Utah's ECE providers, Colorado's providers reported that gardening helped children connect with nature, try new or more fruits and vegetables, and have experiential learning experiences (McCloskey, 2024). Utah ECE providers cited barriers to garden implementation, which other Colorado and Wisconsin ECE providers also indicated, including a lack of or limited staff/time to tend the garden, a lack of funding for gardening materials, and a lack of suitable space (McCloskey, 2024; Rooted, 2020). Other barriers are reflected in Wisconsin's results, which showed that ECE providers lacked gardening knowledge or support from site administrators (Rooted, 2020).

Recommendations/Implications

As the hybrid socio ecological model encompasses community aspects with educational learning, farm to ECE creates new opportunities for young learners about agriculture. We plan to administer the farm to ECE survey annually to create longitudinal data on gardening, local food purchasing, and food and agriculture education. We recommend reporting the findings by program model to reveal different resources, funding opportunities, capacity, barriers, and uses of edible garden spaces. Researchers should use explanatory sequential mixed methods to explain the strategies for using the garden. ECE sites participating in CACFP can use program funds to support gardening by reimbursing garden-grown foods, purchasing gardening supplies, and aligning farm to ECE activities with CACFP meal patterns and grant opportunities. ECE sites can partner with local farmers, Extension, and community garden organizations to receive gardening materials, volunteers, and gardening knowledge. Utah Farm to Fork can share its resources on starting a school garden, growing specific produce, recipes, and funding opportunities with ECE sites to address the lack of gardening knowledge and lack of funding.

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