



Social-Ecological Changes May Support Use of Local Food Sourcing in a Sample of Oklahoma School Nutrition Programs

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SNEB Nutrition Educator Competencies:

- Food Nutrition Policy 5.5: Describe ways to collaborate with community members and other professionals to create communities and settings in which healthy food options are easy, affordable and desired and unhealthy foods are less prominent and less desired.
- Agriculture Production and Food Systems 6.4: Describe ways to collaborate with other stakeholders to promote policies supporting systems that produce healthy food.

Objective:

Evaluate efficacy of a year-long local food sourcing promotional campaign on school nutrition programs' (SNP) use of practices.

Prior Research:

Locally sourced foods increase dietary quality and support local economies. Barriers include lack of product availability, knowledge of regulations and personnel time.

Target Audience:

Convenience sample of 25 Oklahoma SNP administrators/managers recruited at a statewide school nutrition conference.

Program Description:

Campaign conducted in SY 2019 addressed perceived barriers to local food sourcing by SNPs. Methods included development and use of a fact sheet at two statewide SNP management training sessions, culinary chef consults and follow-up emails.



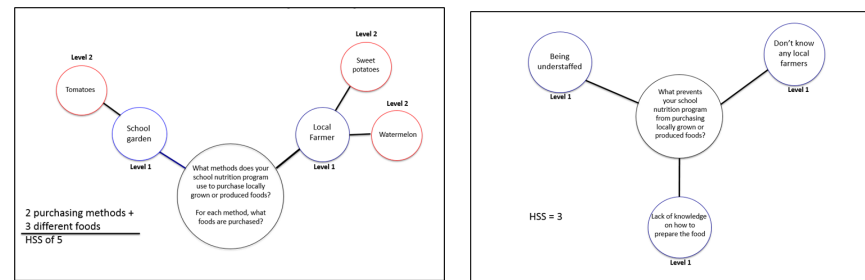
Evaluation Methods:

Demographic survey and pre/post hierarchal concept maps were completed by SNP management-level personnel. Base questions for each map were:

- procurement methods used, and food types purchased, and
- perceived barriers.

For each concept map, scores were calculated by summing items in level 1 (procurement methods, map 1); barriers, map 2) and level 2 (food items, map 1). Level 1 and 2 scores for each map were summed for the hierarchal score (HS).

Paired sample t-tests were used to compare pre/post scores for each level and the HS. Frequency analysis was used to describe SNP demographics, procurement methods used and barriers.



Findings:

- 92% of SNPs were self-operated.
- 96% of schools were medium to high poverty based on free/reduced price meal eligibility.
- 60% were rurally located.
- There was no difference in local food purchasing practices between urban and rural geographic locations at the beginning of the campaign.
- The number of locally sourced food items increased from 1 to almost 3 from pre to post campaign ($p = 0.043$) (Table 1).
- While there was no change in the number of procurement methods used by a SNP, there was a decrease of 20% in the number of SNPs *not* using at least 1 local food procurement method at the end of the campaign (Table 1 and Table 2).
- There was no change in perceived barriers ($p = 0.056$) (Table 1). The most often reported barrier was lack of product availability (Table 3).

Conclusion:

This study demonstrated efficacy of a campaign to increase SNPs' use of local food sourcing. More work based on social-ecological and diffusion of innovation behavior change theories is needed to increase availability of product to further expand diffusion of the practices.

Table 1. Pre/post Mean concept scores for HS for extent of local purchasing and for barriers, number of local food procurement methods, and number of food types purchased locally.

Variables	Pre-Mean Score (sd)	Post-Mean Score (sd)	p-value	Cohen's d
HS: Extent of local food purchasing	1.76 (2.891)	4.20 (4.708)	0.032*	0.84
Number of Methods Used (level 1)	0.56 (0.821)	0.88 (0.881)	0.148	0.38
Number of Food Types Purchased (level 2)	1.04 (2.169)	2.96 (3.942)	0.043*	0.89
HS: Barriers	2.12 (1.092)	2.64 (0.757)	0.056	0.69

*Statistical significance set at p-value <0.05

Table 2: Pre-post number of local-sourcing procurement methods used by SNPs

Method of Purchasing	Pre % (n)	Post % (n)
DoD	16% (n=4)	12% (n=3)
Direct Purchase from Farmer	16% (n=4)	28% (n=7)
Cooperative purchasing with other school	0%	4.0 (n=1)
Garden	4% (n=1)	12% (n=3)
Local Distributor	20.0 (n=5)	24% (n=6)
Not participating in local food sourcing	60% (n=15)	40% (n=10)

Table 3: Number of barriers by category reported by school districts for locally-sourcing food items, pre- and post-intervention

Barrier Theme	Pre # of SNPs Reporting Barrier	Post # of SNPs Reporting Barrier
Total Availability, lack of	16	22
• Lack of product	12	16
• Lack of distribution system	2	0
• Seasonality	1	1
• Quality	1	3
• Food Service Management Comp.	0	2
Total Knowledge, lack of	12	15
• General knowledge	6	6
• Process	1	1
• Network, lack of	3	7
• Finances	2	1
Regulations	2	3
Time	1	2