

# KIDS WIN



## FARM TO SCHOOL ACTIVITIES AND STUDENT OUTCOMES

Farm to school [FTS] programs are widely celebrated for their broad, multi-sectoral benefits, often summarized as the “triple win” - kids win, farmers win, communities. With respect to the “kids win” benefit of farm to school, the National Farm to School Network states that FTS provides all kids access to nutrition, high quality, local food so they are ready to learn and grow.<sup>1</sup> This fact sheet synthesizes our research team’s review of the literature exploring the impact of farm to school activities on student outcomes.

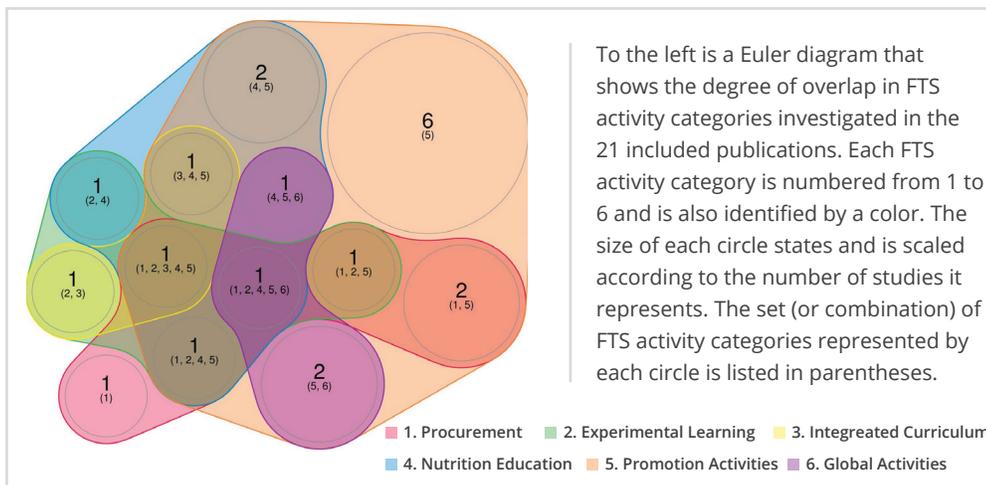
Our research team used a rigorous process to identify published journal articles with strong methodological design (for example, a control group) that investigated student outcomes associated with FTS programs<sup>2</sup>. We could only identify 14 studies, each of which focused on FTS related activities (school-based activities that might shed light on the effectiveness of FTS programs). Accordingly, we also included seven FTS specific studies in our analysis, though none had a rigorous study design<sup>3</sup>.

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### Key Takeaways:

- » Studies on FTS consistently show positive impacts on food and nutrition-related knowledge.
- » There is inconclusive evidence of relationship between FTS activities and fruit and vegetable consumption and preferences.
- » Future research should be transparent about original intended doses and the actual implementation dose achieved, particularly for classroom interventions, so that feasibility of farm to school interventions can be assessed and improved.
- » Strongly designed studies are needed to assess the impact of farm field trips, school gardens, and/or cooking activities in farm to school programs.



- » 100% of the FTS studies and 86% of the FTS-related studies included multiple elements of FTS such as local procurement and nutrition education, which makes it inherently difficult to determine which elements work and which do not.
- » Promotional activities (for example offering taste test of local food) are the most widely studied FTS or FTS-related activity.

<sup>1</sup> <http://www.farmtoschool.org/about/what-is-farm-to-school>

<sup>2</sup> All of the studies are listed in the Prescott et al. (2020) publication

<sup>3</sup> We only included articles studying K-12 grade students attending US schools participating in the National School Lunch Program. Studies were excluded if they focused on afterschool programs as they only served a fraction of the total school population. For complete inclusion/exclusion criteria, please see Prescott et al. (2020).



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## What is Farm to School?

FTS activities take place in the cafeteria (e.g., procurement and cafeteria promotions), the classroom (e.g., school gardens, integrating nutrition and/or agricultural education), or outside the classroom (e.g., farm visits).

<https://farmtoschoolcensus.fns.usda.gov>

Category	Farm to School Activities
Procurement	<ul style="list-style-type: none"> <li>Local food procurement for school meals, snacks, à la carte or fundraiser foods.</li> <li>Serving foods from school-based gardens or farms in cafeteria.</li> <li>Working with local food producers to develop a new menu item using local foods.</li> </ul>
Integrated Curriculum	<ul style="list-style-type: none"> <li>Integrating FTS concepts (e.g., agriculture and nutrition) into the academic standards-based curriculum.</li> </ul>
Experiential Learning	<ul style="list-style-type: none"> <li>Field trips to farms or orchards.</li> <li>School garden or orchard activities.</li> </ul>
Promotion	<ul style="list-style-type: none"> <li>Cafeteria food coaches to promote local food consumption.</li> <li>Celebrating FTS Month.</li> <li>Farmer visits to the school.</li> <li>Hosting FTS-related community events.</li> <li>Incorporating Team Nutrition materials into FTS activities.</li> <li>Local food promotions.</li> <li>Offering taste tests of local foods or foods grown in school gardens/farm.</li> <li>Smarter lunchroom strategies (use behavioral economics principles to influence food behaviors).</li> </ul>
Global	<ul style="list-style-type: none"> <li>Evaluating changes in student acceptance and waste after implementing FTS activities.</li> <li>Generating media coverage of local foods being used in schools.</li> <li>Training food service staff on FTS or school gardens.</li> </ul>

## Student Outcomes | Findings | Notes/ Research Suggestions

- » Studies consistently show positive impacts on food and nutrition-related knowledge; most studies also suggest a positive relation between FTS activities and healthy food selection during schools meals, the perceived ability to make good food choices, and willingness to try fruits and vegetables.
- » Reviewed studies had conflicting results on the relation between FTS activities and fruit and vegetable consumption and preferences. It is unclear whether the lack of findings are due to the ineffectiveness of FTS or due to poor intervention fidelity, insufficient intervention dosage, and/or inadequate outcome measurement.
- » Higher-quality studies presented little evidence that FTS activities impact health outcomes such as BMI or blood pressure.<sup>4</sup>
- » There is a crucial gap in the literature of long-term assessments of FTS activities.
- » Additional strongly-designed studies are needed to assess the impact of farm field trips, school gardens, and/or cooking activities on student outcomes.

<sup>4</sup> Biometric assessment is challenging in FTS for several reasons including working with children in schools and the potentially short duration of interventions.

Funding provided by:   
Award Number 2017-67023-26246  
Document last edited 8-X-20  


## Data Sources:

Prescott, M. R. Cleary, A. Bonanno, M. Costanigro, B.B.R. Jablonski, and A. Long. 2020. A systematic review of the impact of farm-to-school activities on student outcomes. *Advances in Nutrition*. 11(2):357-374. <https://doi.org/10.1093/advances/nmz094>

