Implementing Elementary Agricultural Education in Georgia

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Introduction

A failure to attract youth into agriculture poses a growing challenge to global food security (Cosby et al., 2022). Initiatives around the world have sought to make agriculture more relevant and appealing to young people. This innovative idea highlights an initiative that introduces agriculture at the elementary level through the development of Elementary Agricultural Education (EAE) programs. These programs were first established through legislation in 2018, authorizing six pilot sites in 2019 (Peake et al., 2020). The initiative reflects a global need to strengthen agricultural literacy early, preparing future professionals and informed citizens capable of making decisions about sustainability, the environment, and community well-being (Burrows et al., 2020; Clemons et al., 2018; Peake et al., 2020). Although resources exist to integrate agriculture into elementary classrooms, accountability pressures often push teachers to prioritize literacy and numeracy, leaving limited time for science, inquiry, and real-world learning (Burrows et al., 2020). This underscores the need for certified EAE teachers (Peake et al., 2020) and models to guide scaling EAE programs.

How it Works

This innovative idea applied Kotter's (2012) eight-step change model to guide the [school district's] adoption and expansion of EAE. By framing agricultural literacy as both a science, technology, engineering, and math (STEM) strategy and a community pillar, the initiative evolved from a single pilot to a sustainable, scalable model for long-term engagement.

Create a Sense of Urgency. With less than two percent of Americans in production agriculture and many several generations removed from the farm, agricultural literacy has become increasingly critical (Brandt et al., 2017; Burrows et al., 2020; Knobloch & Martin, 2000). Accountability policies have narrowed instruction, emphasizing reading and math over science and applied learning. Yet research shows agriculture provides an engaging, real-world context for teaching STEM concepts, reinforcing both academic and workforce relevance (Brandt et al., 2017; Knobloch & Martin, 2000). This created a clear sense of urgency to act

Build a Guiding Coalition. District administrators, curriculum leaders, agricultural educators, and community stakeholders were strategically assembled based on their capacity to lead transformational change (Lamm et al., 2016). According to Kotter (2012), effective coalitions demonstrate *power, expertise, credibility, and leadership.* In this case, administrators and district leaders provided authority and resources; agricultural educators and STEM specialists contributed content and pedagogical expertise; respected teachers and community partners added credibility; and motivated teacher-leaders sustained momentum for change.

Developing a Vision and Strategy. Defined K–5 objectives (hands-on gardens, ag literacy standards, environmental connections). The development of Georgia's first elementary agricultural education standards in 2019 provided the foundation for a strategic vision by identifying fifty-two topics across the AFNR Career Clusters (Peake et al., 2020). The strategy embedded agriculture within grade-level science standards as both subject matter and instructional context; linking agricultural literacy to inquiry-based learning and STEM integration.

Communicating the Change Vision. Consistent communication occurred through faculty meetings, newsletters, and school events. Research emphasizes that stories act as symbolic anchors for change (Ikendi & Retallick, 2025). Because traditional communication from agriculturalists to

non-agricultural audiences is often ineffective, messages were tailored through relatable student stories and community-centered examples (Clemons et al., 2018).

Empowering Broad-based Action. Although teachers recognize the value of agricultural education, overcrowded curricula and testing pressures have limited implementation (Burrows et al., 2020). Barriers were addressed through schedule adjustments, shared lesson plans, and funding, allowing teachers to implement hands-on, standards-based learning.

Generate Short-Term Wins. Pilot events such as Agricultural Literacy Week, open houses, and National Agriculture Awareness Week, were intentionally designed to be visible and engaging. These activities demonstrated early success, energized teachers and families, and aligned with research highlighting the importance of family involvement in sustaining student learning (Thorp & Townsend, 2001).

Consolidate Gains and Producing More Change. Following pilot success, EAE expanded from one to five schools within a year. Research shows that agriculture-based interventions, such as gardens and animal projects, enhance engagement and even academic performance (Thorp & Townsend, 2001). Early wins created credibility and momentum for broader adoption.

Anchoring New Approach in the Culture. Agriculture is becoming part of the district's long-term identity through recurring events, projects, and community partnerships. These shared experiences reflect key indicators of organizational culture, including results, people, teamwork, innovation, and shared norms, anchoring agricultural literacy as a sustained part of the educational environment (Ikendi & Retallick, 2025).

Results to Date

By 2025, five schools in the Walker County school district had adopted full K–5 EAE programs, with plans to scale across 11 schools within five years. Results to date indicate high levels of teacher and student engagement, with teachers reporting that agricultural integration enhanced their science instruction while students demonstrated increased enthusiasm for hands-on learning.

Future Plans

Future efforts will focus on strengthening measurement and capacity for sustainable EAE. Plans include developing assessment tools such as rubrics, evaluations, and observations to track student growth in agricultural literacy. Professional development will support teachers without agricultural backgrounds in delivering hands-on, integrated instruction. Practitioners are encouraged to begin with small pilots like gardens or family nights to build credibility and enthusiasm, embed agriculture into science and literacy standards for sustainability, and form coalitions with administrators, parents, local leaders, and Extension agents. Pairing data with storytelling through student showcases and community media will sustain engagement. Globally, the model provides a practical framework for advancing agricultural literacy, connecting youth to agri-food systems, and fostering sustainability and strengthening food security.

Costs and Resources Needed

- Personnel: Certified agricultural educator to lead and sustain instruction.
- Curriculum: Standards-based lessons aligned with [state] DOE requirements.
- Materials: Garden space, raised beds, compost bins, small livestock housing (e.g., chicken coops), and basic tools for soil and plant investigations.
- Institutional Support: Commitment from school and district leaders to provide scheduling flexibility, long-term resource allocation, and integration within existing academic frameworks.

References

Brandt, M., Forbes, C., & Keshwani, J. (2017). Exploring elementary students' scientific knowledge of agriculture using evidence-centered design. *Journal of Agricultural Education, 58*(3), 134–149. https://doi.org/10.5032/jae.2017.03134

Burrows, M., Sorensen, T., & Spielmaker, D. (2020). Assessing the acceptance of incorporating agriculture into elementary school curriculum. *Journal of Agricultural Education, 61*(2), 358–370. https://doi.org/10.5032/jae.2020.02358

Clemons, C., Lindner, J. R., Murray, B., Cook, M. P., Sams, B., & Williams, G. (2018). Spanning the gap: The confluence of agricultural literacy and being agriculturally literate. *Journal of Agricultural Education, 59*(4), 238–252. https://doi.org/10.5032/jae.2018.04238

Cosby, A., Manning, J., Power, D., & Harreveld, B. (2022). New decade, same concerns: a systematic review of agricultural literacy of school students. *Education Sciences, 12(*4), 235. https://doi.org/10.3390/educsci12040235

Georgia Senate Bill 330. (2018). http://www.legis.ga.gov/Legislation/en-US/display/20172018/SB/330

Ikendi, S., & Retallick, M. S. (2025). Strategic leadership and management of multistakeholder organizations. *Journal of Agricultural Education, 66*(2), Article 9. https://doi.org/10.5032/jae.v66i2.88

Knobloch, N. A., & Martin, R. A. (2000). Agricultural awareness activities and their integration into the curriculum as perceived by elementary teachers. *Journal of Agricultural Education, 41*(4), 15–26. https://doi.org/10.5032/jae.2000.04015

Kotter, J. P. (2012). *Leading change*. Harvard Business Review Press. Lamm, K. W., Sapp, L. R., & Lamm, A. J. (2016). Leadership programming: Exploring a path to faculty engagement in transformational leadership. *Journal of Agricultural Education, 57*(1), 106–120. https://doi.org/10.5032/jae.2016.01106

Lamm, K. W., Sapp, L. R., & Lamm, A. J. (2016). Leadership programming: Exploring a path to faculty engagement in transformational leadership. *Journal of Agricultural Education, 57*(1), 106–120. https://doi.org/10.5032/jae.2016.01106

Peake, J., Rubenstein, E., & Byrd, B. (2020). Content topic development for elementary agricultural education curriculum. *Journal of Agricultural Education, 61*(3), 101–111. https://doi.org/10.5032/jae.2020.03101

Thorp, L., & Townsend, C. (2001, December). Agricultural education in an elementary school: An ethnographic study of a school garden. In *Proceedings of the 28th Annual National Agricultural Education Research Conference in New Orleans, LA* (pp. 347-360).