

Social Studies Teaching and Learning

Volume 2, Issue 2

An open-source peer-reviewed journal of the



Co-editors:

Kimberlee Sharp, Morehead State University
Caroline Sheffield, University of Louisville

Peer Reviewers:

Joshua Kenna, University of Tennessee
David Childs, Northern Kentucky University
Jeremiah Clabough, University of Alabama – Birmingham
James Akenson, Tennessee Technological University
John Bickford, Eastern Illinois University
Natalie Keefer, University of Louisiana – Lafayette
Dean Vesperman, University of Wisconsin – River Falls
Scott Roberts, Central Michigan University
Ricky Mullins, University of Virginia’s College at Wise
Charles Elfer, Clayton State University
Sean M. Lennon, Valdosta State University
Sandra Riegle, Morehead State University
Nefertari Yancie, University of Alabama – Birmingham
Jeffrey Byford, University of Memphis
Rebecca Roach, Morehead State University

Table of Contents

Practice

Ricky Mullins and Molly Erwin, *“This is Our Time to Find Our Voice”*: Doing Discussion in the Elementary Social Studies Classroom 82

Rebecca Roach and Claire West, *Picture Books, Posters, and Post-Its: Summarizing Text to Stage the Compelling Question* 89

Russell G. Hammack, Lisa Matherson, and Elizabeth Wilson, *Inquiry and the Olympics: A Catalyst for Social Change* 100

Ronald V. Morris, *Teaching Second-Grade Students to Curate and Interpret the Egyptian Museum* 112

Samuel Northern, *Roadmap to Improving Social Studies Instruction* 122

Research

Julie Anne Taylor, K. Dara Hill, and Jerry W. Tait, *Learning Gardens and Social Education in Detroit* 131

Learning Gardens and Social Education in Detroit

Julie Anne Taylor^a, K. Dara Hill^a & Jerry W. Tait^b

^aUniversity of Michigan-Dearborn, ^bCooke STEM Academy

Abstract

In this article, the authors examine how a learning garden at an alternative, public school in Detroit, Michigan fostered authentic, integrative learning in the social studies. In interviews, high school students described how a community-oriented, service-learning experience advanced their understanding of socioeconomics and sustainability. Through authentic assessments, such as grant writing, they honed real-world skills. This study suggests that learning gardens are promising pedagogical spaces in the social studies.

Keywords: Learning gardens, sustainability, civic education

Although learning gardens have been the subject of research in the field of science education, their potential to advance learning objectives in social studies education has not been fully explored. This article examines how an interdisciplinary learning garden at an alternative secondary school in Detroit increased students' understanding of sustainability, civic engagement, and economics. Based on interviews with a leading educator and her students, the study suggests that school gardens foster authentic learning in the social studies.

Literature review

Having waned after the end of World War II, the popularity of school gardens in the United States began increasing in the 1990s (Williams & Dixon, 2013). When Michelle Obama invited school children to contribute to the preparation of the White House Kitchen Garden in 2009, public interest in gardening and health grew. Edible gardens on school grounds became more common, particularly at the elementary level.

Learning gardens can be important components of “green pedagogies” (Green & Duhn, 2015, p. 60). Gardens serve as contexts for reflection on sustainability and land stewardship (Bucklin-Sporer & Pringle, 2010; Eugenio-Gozalbo et al., 2020; Ozer, 2007). Through gardening, people gain appreciation of social and ecological interdependence (Ozer, 2007; Shan & Walter, 2015). Gardens are “intercultural contact zones” that foster relationships and shared practices (Shan & Walter, 2015, p. 32). Green and Duhn (2015) wrote, “There is potential for extensive learning how to live together in more sustainable ways, including living together with more-than-human others. Growing food, sharing food, protecting food and enjoying food all become aspects of such learning which is essentially learning the ethics of sustainable living in shared spaces” (p. 70).

Gardening has been associated with positive self-perception by students (Holmes et al., 2021). In the Mississippi Delta, fifth-grade students, who had been engaged in gardening at school, reported being able to lead, to collaborate, and to solve problems (Holmes et al., 2021). Gardens foster deeper learning (Bellanca, 2015). Green schoolyards "...have the potential to teach ecological literacy, invigorate children's bodies, open and inspire young minds, and knit our communities more closely together in the process" (Danks, 2010, p. 247).

The cultivation of local food sources is a protective and transformative endeavor (Williams & Brown, 2012). In green schoolyards, edible crops improve the quality and supply of food (Bucher, 2017; Danks, 2010). In Detroit, urban farming is a well-established and thriving practice. Nevertheless, many of the city's residents, who live in low-income neighborhoods, still have inadequate access to healthy foods, and they do not live in the vicinity of supermarkets (Zenk et al., 2005). Poor diets are associated with morbidities (Williams & Brown, 2012). Since the onset of the COVID-19 pandemic, the number of people in the United States, who are affected by food and nutrition insecurity, has increased from 35 million to 42 million (Rosenbloom, 2021). Sustainably grown gardens help address hunger. They build capital, and they lead to empowerment (Cockrall-King, 2012; Hodgson et al., 2011; Ladner, 2011).

According to the United Nations, environmental degradation, food security, and poverty are critical global challenges (World Commission on Environment and Development, 1987). Self-provisioning through urban gardens increases community capacity (Mougeot, 2006; Hodgson et al., 2011). In schools, garden-based, sustainability education requires an interdisciplinary approach. In *Ecological Literacy*, Orr (1992) wrote, "...environmental issues are complex and cannot be understood through a single discipline or department" (p. 90).

Theoretical framework

The theoretical framework of this study lies in deeper learning and critically relevant civics (CRC). Influenced by constructivism, deeper learning stresses the application of knowledge and the development of relevant products (Bellanca, 2015). Learning in the agricultural program in Detroit was experiential. Direct instruction on sustainability, the environment, economics, and health was combined with fieldwork. Students planned and planted gardens; tended and harvested crops; and distributed fresh, organic food to the school's cafeteria, other students, and people in the community. They installed rain barrels, and they built and repaired hoop houses (see Figure 1). Involved in culinary competitions, they learned about diverse cuisines. Their literacy skills grew as they wrote grants to purchase equipment, such as a solar air heater and water pump. The students communicated their conclusions with other students and the public through student-led tours of the garden and hip-hop music videos (see Figure 2).

Figure 1

The garden was a productive and sustainable system.

**Figure 2**

The students led tours of the hoop house.



Critically relevant civics involves students in the analysis of structural inequalities as they explore civic life and renewal through extramural and community-oriented learning experiences (Clay & Rubin, 2019). Contemporary environmental, social, and economic issues are relevant to civic education (Eugenio-Gozalbo et al., 2020). The learning garden in this study was the context in which Detroit students examined socio-economic disparities in urban landscapes. They assessed how the well-being of the predominantly African American community could be advanced. The students examined the role of gardens in securing healthy and affordable food sources at the local level. As they managed the garden at their school, their sense of agency increased.

Critically relevant civics was embedded in the framework of another Detroit secondary school, the critically acclaimed Catherine Ferguson Academy, which provided pregnant and

parenting teens with urban farming skills, food, and financial security (Wilson et al., 2019). The Catherine Ferguson Academy was nationally renowned for its experiential learning practices that supported student agency and academic success. Educators made curricular connections to the students' planting, tending, and harvesting of crops for local markets and the community (Hanson & Marty, 2012; Wilson et al., 2019). The work at the academy was well documented in the *Grown in Detroit* documentary; the filmmakers captured footage of teachers, who cultivated independence and knowledge of nutritious foods (Poppenk, 2009).

Method

The school and participants

This study was conducted at a small, public high school for boys in Detroit, Michigan during a two-year period. The majority of school's students qualified for the National School Lunch Program (United States Department of Agriculture [USDA], n.d.). Over 98% of the students were African American. Having received support in the form of public and private grants and two visits by a United States senator, who serves on the Senate Committee on Agriculture, Nutrition, and Forestry, the school's agricultural program was known statewide.

The teacher, Marquita Reese, who founded and directed the program, participated in this study by engaging in a semi-structured interview. Five students volunteered to be interviewed as well. All participants were African American. This IRB-approved research was conducted with the support of the school principal. Permissions were obtained to publish photographs and the first names of students.

Data Collection

To explore the value of the school's learning garden to social education, the educators decided to conduct semi-structured interviews. Interviews engage participants in a reflective process (Stringer, 2014). The semi-structured format allows researchers to explore unanticipated topics (Adams, 2010). For this study, the authors wrote two sets of open-ended questions: one for Reese and the other for the students. Of the use of interviews in research, Teddlie and Tashakkori (2009) wrote, "Interviews are a powerful data-collection strategy because they use one-to-one interaction between researchers and interviewees...Open-ended interviews generate considerable information which may lead to the reconceptualization of the issues under study" (p. 229).

In the spring of two consecutive academic years, student volunteers were interviewed during lunchtime. They were asked about their reasons for participating in the agricultural program and the program's impacts. Three students were interviewed as a group during the first year. They took turns answering each question. After the interview, the students gave one of the researchers a guided tour of the garden while explaining the program and its impact. Field notes and photographs were taken. The teacher, Reese, was interviewed separately after school about her background, educational objectives, and teaching methods.

During the second year of the study, two young men volunteered to participate, and they were interviewed together. Held in classrooms, the interviews were recorded with a handheld, digital voice recorder. The audio files were later transcribed by Rev.com. After being checked for accuracy, the transcripts of the interviews were read independently multiple times by the researchers. While examining the transcripts of the students' interviews, the authors identified commonalities, and they assigned descriptors in a heuristic process (Saldana, 2013). Emergent concepts were analyzed. Supported by the field notes, the findings are presented in this article.

Findings

The student interviews

Reasons for enrolling

During the interviews, the students offered different reasons for enrolling in the gardening program: an interest in health; a desire to know more about organic gardening methods; a recommendation from their mentor-teacher, Reese; an appreciation of hands-on learning and fresh food; and the potential to earn money through Michigan's work-based learning opportunities program. Each student earned minimum wage and elective credit hours through the program. Prior to their involvement, the students' experiences with gardening varied.

Benefits of the program

The students associated the learning garden with multiple positive outcomes. A form of service-learning, engagement in the garden led to the provision of healthy produce for the school. The students viewed the garden as a means to strengthen and to revitalize the local community. Because Reese's pedagogical approach was deliberate in its interdisciplinarity, the students' understanding of human-environment interaction and sustainability grew. Through economic education, they gained insight into production, consumption, and distribution as well as personal finance. As their knowledge of food, nutrition, and health deepened, they learned about diversity through the culinary arts. Reese's use of authentic assessments, such as grant writing, sharpened the students' transferrable skills. The students did not mention any negative consequences of their involvement in the program. The key concepts that emerged from the interviews with the students are described below.

Service to the school community

The participants viewed their cultivation of fresh, organic produce for the school's cafeteria as a form of service to the school. In the interviews, the young men explained how the students were regularly eating fresh salads because of the garden. They noted that, were they not to cultivate organic produce, the cafeteria would serve conventional vegetables grown in and shipped from other locations. "A lot of people don't know where they get their food from. Honestly, I didn't know before we started working in the garden," Gerald said.

In addition to providing produce to the cafeteria, the students often prepared their own dishes. They then shared samples with their classmates. Andre said that his classmates were appreciative. “From the salads, we make dishes and samples just to give (the students) things to taste...A lot of times you can’t really tell them what’s in it until after they eat it because...they are afraid to try new things. But after that, their response is actually wonderful.”

Community ties and urban revitalization

The learning garden strengthened community ties. The school’s campus is unfenced, and visitors regularly paused to talk with Reese and her students. During times of harvest, the visitors were offered bags of produce. The students explained that they would sometimes take the opportunity to talk with people about nutrition, pesticides, and genetically modified foods. In addition to offering sustenance, the students sought to improve community health. Making reference to the prevalence of cancer, diabetes, and high blood pressure in the African American community, Deon said that he viewed the improvement of community health through diet as an important part of the revitalization of Detroit.

During the interview, the students spoke about the school’s garden being a model for urban farming. They saw their work as part of the larger urban farming movement in Detroit. With the decline of manufacturing and the migration of residents to suburban communities, Detroit began losing population in the 1950s (Binelli, 2013). Michigan was the only state to have lost population between 2000 and 2010. With state and federal funding, thousands of houses have been razed by the Detroit Demolition Program to address urban blight. The cultivation of public and private land has grown throughout Detroit (Cockrall-King, 2012; Nordahl, 2009).

Having identified the city’s vacant land as a community asset, the students engaged in civic problem-solving. The young men spoke about the potential for community gardens to address food scarcity among low-income residents and the homeless. They noted that some neighborhoods in Detroit were food deserts where access to fresh produce was limited. Participation in the agricultural program raised the students’ awareness of how organic gardening could positively affect community well-being and health. In analyzing public problems and deliberating how to address them, the students were active, responsible citizens (National Council for the Social Studies [NCSS], 2013). The garden functioned as a “gateway” to civic learning and engagement (Ray et al., 2016, p. 392).

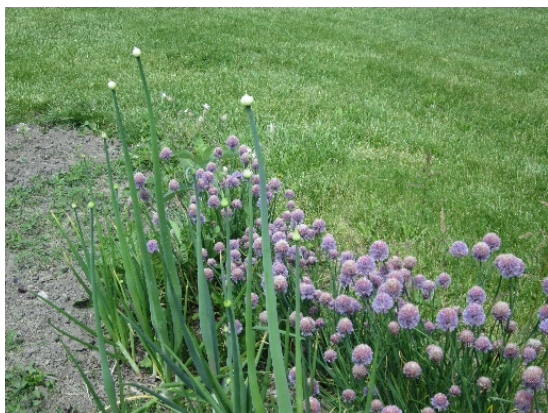
Human-environment interaction and sustainability

“What we’re doing with the garden definitely has a positive impact on the environment,” affirmed Kyle. From Reese, they learned about sustainable agricultural practices. Although their focus was on cultivating edible plants, they grew flowers to attract pollinators (see Figure 3). To fertilize the soil, they spread used coffee grounds from the school’s coffee pots. Recycled paper was shredded and reused as mulch. The students learned how to compost. They installed a solar pump to bring water from rain barrels to plants. To extend the growing season, particularly for

tomatoes, they acquired a solar air heater. Through their efforts, the garden became a regenerative ecosystem. “I think that everyone has an impact on the environment, whether it’s an individual or individuals in the community. And I think that it’s up to you whether you make that impact a good one or a negative one,” Kyle said.

Figure 3

Flowers were planted to attract pollinators.



Economic education and empowerment

“Who am I relying on to get my food? Am I relying on the grocery store? Am I relying on a farmer’s market? I can grow my food right here in my backyard...I am self-sustaining...I can provide for myself, my family, and my community,” Kyle affirmed. The students considered the process of growing one’s own food to be empowering. Gardeners are economic producers (Hake, 2017). The fruits of their labor impact personal finance. Gerald observed that having an independent source of produce offers households some protection from price fluctuations in grocery stores. Because the students had the option of taking food home, they had seen how the vegetables from the garden had reduced the cost of food for their families. Gerald explained that, as an adult, he would cultivate his own garden.

As work-study students, the young men expressed their appreciation for the opportunity to earn money for personal and familial expenses. Andre said, “(The program) has been beneficial to me because...it gives me a little extra money to get things together, and a little extra money to help my mom out if she needs any help with bills.” The work-study aspect also increased the students’ sense of responsibility. Kyle explained, “Having a job – you have to be on time. You have to be there to sign in every day, and you have to perform as well as learn while you’re performing.”

As part of their economic education, the students considered gardens within market systems (NCSS, 2013). In the program, they discussed how, theoretically, they might scale their production in order to sell produce at venues such as farmer’s markets. They spoke about reinvesting the proceeds in their school garden and then establishing new gardens in other

locations. Interested in organic farming, the students learned that organic produce must be certified by the United States Department of Agriculture (USDA, n.d.). They gained insight into government regulation of the market.

Food literacy and health

The students' food and agricultural literacy grew. The authors of other studies of school gardens have noted similar outcomes (Williams & Dixon, 2013; Green & Duhn, 2015). In Detroit, each young man mentioned one or more vegetables that he had never had prior to participating in the agricultural program. One student admitted that "just about everything" in the garden had been new to him. When interviewed, the students described the successful cultivation of tomatoes, cilantro, cabbage, spinach, parsley, dill, mushrooms, mustard, onions, butternut squash, corn, potatoes, kale, arugula/rocket, brussel sprouts, watermelon, and strawberries. In Michigan's climate, they had the greatest success growing greens, particularly Swiss chard, collard greens, and lettuce. When asked how the student body generally felt about the increase in the cafeteria's use of fresh produce, Deon affirmed, "They love it."

Reese sought to expose the students to the cuisines of diverse cultures. She arranged cooking lessons by the school's chefs. The students learned to make dishes from India, Mexico, and other countries. Independently, the young men began experimenting with ingredients from the garden to create meals. In 2017, they joined the Healthy Schools Campaign by participating in the local Cooking up Change competition. Students in the competition prepare healthy meals that meet the national nutritional requirements for school meals. After winning in the city of Detroit, the students competed in the Cooking up Change National Finals in Washington, D.C.

During the interviews, the young men talked about becoming more conscious of eating healthily. From Reese, they had learned to read labels and to look for high-quality ingredients. All students said that their eating habits had improved. They were eating more vegetables and organic foods, and they were consuming less junk food. As a result, they reported feeling better. Deon said, "You have control over what you eat and what you put into your body." Eating organic vegetables and healthy foods, he explained, is energizing. Brent agreed. "I've been moving faster," he said.

Authentic assessments

The students spoke positively about authentic assessments that were designed to promote literacy. Reese had the students, as part of their management of the garden, prepare grant applications. On the applications, the students had to explain and persuade reviewers of their need for infrastructure, such as hoop houses and solar equipment. Multiple grants were funded. When a U.S. senator first visited the school for a student-led tour of the garden, the students said that they were both surprised and honored. Through this real-world civics lesson, the young men realized that their elected officials were interested in their well-being. "They actually care," said Andre.

To enable the students to communicate creatively, Reese partnered with the school's social studies teacher, Quan Neloms, who ran an after-school program called the Lyricist Society. Three students, who were interviewed for this study, wrote lyrics for a music video, *Let's start a revolution – a food revolution*. The hip-hop music video, *Nutrients*, was created by students, who were not interviewed for this study because they had graduated. In *Nutrients*, the young men integrated aspects of digital storytelling: <https://www.youtube.com/watch?v=0TowfXhfdKg>. They used original footage of the Black Panthers' breakfast program to contextualize their messages of self-sufficiency and health (Lyricist Society, 2017). For the video, they filmed scenes of students' enjoying the school's garden, preparing salads, visiting a farmer's market, eating healthily, and being active. Engagement in dimension four of the Inquiry Arc, the communication of conclusions and the taking of informed action, was part of Reese's garden-based pedagogy (NCSS, 2013).

The interview with Marquita Reese

In her interview, Reese described her experiences with gardening as lifelong. For generations, the members of her family have gardened, shared seeds, and enjoyed high-quality food. Wanting her students to have the knowledge and enrichment that come from gardening, she established the agricultural program at the Detroit secondary school. Informed by decades of teaching and experiences with learning gardens at other schools, Reese's approach to the agricultural program was holistic and integrative. She and her students considered health and self-care in light of the complex socio-economic issues, including food insecurity, that face many people in the African American community in Detroit. Reese established learning objectives that were not limited to the STEM fields in which she specialized. In her own words, she taught, "self-awareness, self-consciousness, and self-sustainability."

"Everything that we've been doing is geared to the community...it's all community based," Reese said. She spoke about sharing plants, produce, and recipes with people in the school and neighborhood. She shared how she and her students had surveyed members of the school community to learn about their hopes for the garden and the types of crops that they wanted to have. She expressed her desire that all people be well nourished and healthy. "No one can go hungry if you have a seed. Because one seed produces a hundred seeds, and a hundred seeds produce a thousand seeds," she said.

In her interview, Reese explained that the students' involvement in grant writing was part of their leadership development. She wanted the students to see possibilities and to be empowered. Recognizing the value of their work on the learning garden, the United States Department of Agriculture, the Lifetime Foundation, Bosch, and Huntington Bank awarded grants. Reese observed that engaging in the solving of real-world problems increased the students' sense of self-efficacy and confidence. "My long-term goal is to develop thinkers, leaders, and problem-solvers," she explained.

In their separate interviews, the students described Reese as an impactful educator who created unique opportunities for autonomous and experiential learning (see Figure 4). Andre stated, “She’s a great person as far as thinking outside the box and coming up with new and great ideas. She’s a very loving and caring person, and we appreciate her so much.” Kyle added, “Her teaching is unorthodox but brilliant...She has a way of teaching and allowing you to teach yourself at the same time.” “She wants you to live up to her standards,” said Brent.

Figure 4

Marquita Reese and a student discussed the garden’s yields.



Discussion

The agricultural program in Detroit involved students in service-learning, a form of civic education that is both reflective and applied (Carter, 1997). As students engage in service-learning, their feelings of efficacy and responsibility grow (Butin, 2010; Cipolle, 2010; Furco, 2002; Webster, 2007). Because of its emphasis on community engagement, service-learning is in alignment with critically relevant civics; the learning process is salient and dynamic (Clay & Rubin, 2019).

Learning gardens enhance social studies education, but limited funding, teacher experience, and instructional materials present challenges (Graham et al., 2005; Ozer, 2007). In some schools, administrators have prioritized classroom preparations for high-stakes tests (Bucher, 2017). Currently, Big Green offers material support to educators, who wish to establish learning gardens: <https://biggreen.org/apply/>. The organization encourages the formation of diverse teams of teacher-leaders to manage school gardening programs. On its website, educators will find activities, lessons, and a video archive. The Edible Schoolyard Project (2021) in Berkeley, California offers online and summer training to educators as well as a variety of resources on its website. USDA grants are available for the Food and Agriculture Service Learning Program. Interested educators may apply on the FoodCorps website: <https://foodcorps.org/apply-for-a-grant-to-expand-nutrition-education/>.

When large school gardens are not feasible, small-scale projects, such the cultivation of edibles in raised beds or vertical gardening systems, are practical alternatives for social studies

teachers. Windowsill gardens would ideally begin with seeds and peat pellets, though starter plants could be introduced to classrooms. Grow light bulbs are easily inserted in standard lamps to support indoor plants. On the website of National Geographic (2021), social studies educators will find guides, with graphics and checklists, to schoolyard gardens: <https://www.nationalgeographic.org/media/schoolyard-garden-guides/>.

Using visual art, social studies teachers may spark classroom discussions of gardening and sustainability. Etling's (2010) poster, *Sustain*, conveys a simple and effective message (see Figure 5). Grasping a carrot, Etling's Black Power fist is green (Taylor, 2020). The poster analysis worksheet of the National Archives and Records Administration (NARA) (n.d.) would be an effective tool to facilitate analysis; it requires students to identify symbols and colors, consider the audience, and explain the poster's purpose.

Figure 5

Sustain



Note. Etling, W. (2010)

Historic, political artwork on gardening lends itself to analysis in history classes. At the urging of the United States government, victory gardens, including gardens in schoolyards, were widely planted during World War I and World War II (Hayden-Smith, 2014; Sumner, 2019). During the Second World War, artists, who were employed by the Works Progress Administration, designed posters to persuade the public to establish gardens (see Figure 6). In victory gardens on private and public lots, an estimated 40% of the country's produce was grown (Cockrall-King, 2012). The victory gardens promoted preparedness and solidarity.

Figure 6

Grow It Yourself. Plan a Farm Garden Now



Note. Bayer, H. (1941-1943). Library of Congress

Conclusion

Interdisciplinary learning gardens are promising contexts for constructivist, social studies education. In Detroit, the school garden became a community asset. As students examined socioeconomic and environmental questions, they engaged in problem-solving and decision-making. While learning about the agri-food system, they considered their own ecological footprints. The findings of this study suggest that gardens as pedagogical spaces and topics of study are worthy of the attention of social studies educators.

Julie Anne Taylor is a professor in the Department of Education at University of Michigan-Dearborn. She teaches courses in secondary social studies methods and multicultural education.

K. Dara Hill is an associate professor in the Department of Education at the University of Michigan-Dearborn. She teaches courses in elementary and secondary reading and language arts, with an emphasis on literacy, language, and culture.

Jerry W. Tait is the assistant principal of the Cooke STEM Academy in the Detroit Public Schools Community District. He is pursuing a doctoral degree in educational leadership at the University of Michigan-Dearborn.

References

- Adams, W.C. (2010). Conducting semi-structured interviews. In J.S. Wholey, H.P. Hatry, & K.E. Newcomer (Eds.), *Handbook of practical program evaluation* (pp. 365-377). Jossey-Bass.
- Bayer, H. (1941-1943). *Grow It Yourself. Plan a Farm Garden Now* [Silkscreen]. Library of Congress. <https://www.loc.gov/item/99400959/>
- Bellanca, J. (2015). Introduction: Advancing a new agenda. In J.A. Bellanca (Ed.), *Deeper learning: Beyond 21st century skills* (pp. 1-18). Solution Tree Press.
- Big Green. (2021). *Apply for a learning garden*. <https://biggreen.org/apply/>
- Binelli, M. (2013). *Detroit City is the place to be: The afterlife of an American metropolis*. Picador.
- Bucher, K. (2017). Opening garden gates: Teachers making meaning of school gardens in Havana and Philadelphia. *Teaching and Teacher Education*, 63, 12-21.
- Bucklin-Sporer, A. & Pringle, R.K. (2010). *How to grow a school garden*. Timber Press.
- Butin, D.W. (2010). *Service-learning in theory and practice*. Palgrave Macmillan.
- Carter, G.R. (1997). Service-learning in curriculum reform. In J. Schine & K.J. Rehage (Eds.), *Ninety-sixth yearbook of the National Society for the Study of Education* (pp. 69–78). University of Chicago Press.
- Cipolle, S.B. (2010). *Service-learning and social justice*. Rowman & Littlefield.
- Clay, K.L., and Rubin, B.C. (2019). “I look deep into this stuff because it’s a part of me”: Toward a critically relevant civics education. *Theory & Research in Social Education*, 48(2), 1-21.
- Cockrall-King, J. (2012). *Food and the city: Urban agriculture and the new food revolution*. Prometheus Books.
- Cramer, S.E., Ball, A.L., & Hendrickson, M.K. (2019). Our school system is trying to be agrarian: Educating for reskilling and food system transformation in the rural school garden. *Agriculture and Human Values*, 36, 507-519.
- Danks, S.G. (2010). *Asphalt to ecosystems: Design ideas for schoolyard transformation*. New Village Press.
- Edible Schoolyard Project. (2021). Virtual training to support edible educators. <https://edibleschoolyard.org/online-training>

- Etling, W. (2010). *Sustain*. In Siegel, D., & Morris, E. (Eds.), *Green patriot posters: Images for a new activism*. Metropolis Books.
- Eugenio-Gozalbo, M., Ramos-Truchero, G., & Suarez-Lopez, R. (2020). University gardens for sustainable citizenship: Assessing the impacts of garden-based learning on environmental and food education at Spanish higher education. *International Journal of Sustainability in Higher Education*, 22(3), 516-534.
- Furco, A. (2002). Is service-learning really better than community service? In A. Furco & S.H. Billig (Eds.), *Service-learning: The essence of the pedagogy* (pp. 23–50). Information Age Publishing.
- Graham, H., Beall, D.L., Lussier, M., McLaughlin, P., & Zindenberg-Cherr, S. (2005). Use of school gardens in academic instruction. *Journal of Nutrition Education and Behavior*, 37(3), 147-151.
- Green, M., & Duhn, I. (2015). The force of gardening: Investigating children’s learning in a food garden. *Australian Journal of Environmental Education*, 31(1), 60-73.
- Hake, B.J.. (2017). Gardens as learning spaces: Intergenerational learning in urban food gardens. *Journal of Intergenerational Relationships*, 15(1), 26-38.
- Hanson, D. & Marty, E. (2012). Catherine Ferguson Academy Detroit, Michigan: The alternative curriculum farm. In D. Hanson & E. Marty (Eds.), *Breaking through concrete* (pp. 129-136). University of California Press.
- Hayden-Smith, R. (2014). *Sowing the seeds of victory: American gardening programs of World War I*. McFarland.
- Hodgson, K., Campbell, M.C., & Bailkey, M. (2011). *Urban agriculture: Growing healthy, sustainable places*. American Planning Association.
- Holmes, E.A., Campbell, M.F., James, W., & Matthews, K. (2021). “Sow, grow, know, and show”: The impact of school gardens on student self-perception in the Mississippi Delta. *Ecology of Food and Nutrition*, 60(2), 140-162.
- Ladner, P. (2011). *The urban food revolution: Changing the way we feed cities*. New Society Publishers.
- Lyricist Society (2017). *Nutrients*. [Video]. YouTube. <https://www.youtube.com/watch?v=0TowfXhfdKg>

- Mougeot, L.J.A. (2006). *Growing better cities: Urban agriculture for sustainable development*. International Development Research Centre. <https://www.idrc.ca/sites/default/files/openebooks/226-0/index.html>
- National Archives and Records Administration. (n.d.). *Poster analysis worksheet*. <https://www.archives.gov/education/lessons/worksheets/poster>
- National Council for the Social Studies (2013). *College, career, and civic life (C3) framework for social studies state standards: Guidance for enhancing the rigor of K-12 civics, economics, geography, and history*. Author.
- National Geographic (2021). *Schoolyard garden guides*. <https://www.nationalgeographic.org/media/schoolyard-garden-guides/>
- Nordahl, D. (2009). *Public produce*. Island Press.
- Orr, D.W. (1992). *Ecological literacy: Education and the transition to a postmodern world*. State University of New York Press.
- Ozer, E.J. (2007). The effects of school gardens on students and schools: Conceptualization and considerations for maximizing healthy development. *Human Education & Behavior*, 34(6), 846-863.
- Poppenk, M. (2009). *Grown in Detroit* [Film]. Filmmij.
- Ray, R., Fisher, D.R., & Fisher-Maltese, C. (2016). School gardens in the city: Does environmental equity help close the achievement gap? *Du Bois Review*, 13(2), 379-395.
- Rosenbloom, C. (2021, June 11). Food security isn't enough. Anti-hunger experts say the focus should be on nutrition security. *The Washington Post*. https://www.washingtonpost.com/lifestyle/wellness/food-security-nutrition-usda-school-andres/2021/06/10/8375e7c6-c951-11eb-81b1-34796c7393af_story.html
- Saldana, J. (2013). *The coding manual for qualitative researchers* (2nd ed.). Sage.
- Shan, H., & Walter, P. (2015). Growing everyday multiculturalism: Practice-based learning of Chinese immigrants through community gardens in Canada. *Adult Education Quarterly*, 65(1), 19-34.
- Stringer, E.T. (2014). *Action research*. Sage.
- Sumner, J. (2019). *Plants go to war: A botanical history of World War II*. McFarland.

- Taylor, J.A. (2020). Youth voices and agency in democratic education. *Teaching Social Studies* 20(2), 82-96.
- Teddlie, C., & Tashakkori, A. (2009). *Foundations of mixed methods research*. Sage.
- United States Department of Agriculture. (n.d.) *National School Lunch Program*. Food and Nutrition Service. <https://www.fns.usda.gov/nslp>
- Webster, N. (2007). Enriching school connection and learning in African American youth: The impact of a service-learning feasibility project in inner-city Philadelphia. In S.B. Gelmon & S.H. Billig (Eds.), *Service learning: From passion to objectivity* (pp. 159–176). Information Age Publishing.
- Williams, D.R., & Brown, J.D. (2012). *Learning gardens and sustainability education: Bringing life to schools and schools to life*. Routledge.
- Williams, D.R., & Dixon, P.S. (2013). Impact of garden-based learning on academic outcomes in schools: Synthesis of research between 1990 and 2010. *Review of Educational Research*, 83(2), 211-235.
- Wilson, C.M., Bentley, T., & Kneff-Chang, T. (2019). School closure, racial politics, and vulnerable youth: Challenging the shuttering of a Detroit school for teen parents. *Urban Education*, 1-31. <https://doi.org/10.1177%2F0042085919842611>
- World Commission on Environment and Development (1987). *Report of the World Commission on Environment and Development: Our Common Future*. Oxford University Press.
- Zenk, S.N., Schultz, A.J., Israel, B.A., James, S.A., Bao, S., & Wilson, M.L. (2005). Neighborhood racial composition, neighborhood poverty, and the spatial accessibility of supermarkets in metropolitan Detroit. *American Journal of Public Health*, 95(4), 660-686.