



# Centering Equity in Sustainable Food Systems Education

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Sustainable food systems education (SFSE) is rapidly advancing to meet the need for developing future professionals who are capable of effective decision-making regarding agriculture, food, nutrition, consumption, and waste in a complex world. Equity, particularly racial equity and its intersectional links with other inequities, should play a central role in efforts to advance SFSE given the harmful social and environmental externalities of food systems and ongoing oppression and systemic inequities such as lack of food access faced by racialized and/or marginalized populations. However, few institutional and intra-disciplinary resources exist on how to engage students in discussion about equity and related topics in SFSE. We present perspectives based on our multi-institutional collaborations to develop and apply pedagogical materials that center equity while building students' skills in systems thinking, critical reflection, and affective engagement. Examples are provided of how to develop undergraduate and graduate sustainable food systems curricula that embrace complexity and recognize the affective layers, or underlying experiences of feelings and emotions, when engaging with topics of equity, justice, oppression, and privilege.

**Keywords:** food systems pedagogy, systems thinking, equity, critical reflection, sustainable food systems education, affect

## INTRODUCTION

Food systems<sup>1</sup> are foundational drivers of change and power relationships on local to global scales, cutting across social, political, economic, health, and environmental systems. Poor quality diets are among the top contributors to the global burden of disease (Murray et al., 2020), and producing the food that comprises these diets puts pressure on the earth's systems through major contributions to greenhouse gas emissions, fresh water use, and biodiversity loss (Willett et al., 2019). Our current industrial food systems are not effectively contributing to the health of people or the planet, with notable disparities for the most vulnerable populations and regions (Global Nutrition Report, 2020). However, discussions about “fixing a broken food system” in order to “feed the world” assume that food systems of the past functioned to produce equitable outcomes. This framing overlooks the violences of racial inequities, colonial histories, and disparities in power between privileged groups and marginalized groups that continue to be subject to harmful social and environmental externalities of food systems and ongoing oppression and systemic inequities due to exploitative globalization (Cadieux and Slocum, 2015; Holt-Giménez and Harper, 2016; Holt-Giménez, 2017)<sup>2</sup>.

The way in which food is produced and moves through food supply chains impacts laborers and other stakeholders as well as consumer food environments, including the availability, affordability, acceptability, and sustainability of foods (Downs et al., 2020). Systems thinking identifies innovative ways to reorient food systems toward the production and consumption of just, equitable, healthy, and sustainable diets and toward prioritizing access to affordable and culturally relevant food for all (Cadieux and Slocum, 2015; Valley et al., 2018; Iowa State University Extension and Outreach, 2021). Food systems thinking is an approach that goes beyond the conventional focus on linear and distinct food system elements and that moves toward accounting for more complex, interconnected, and dynamic linkages (Ingram et al., 2020).

Given the complexity of the problems within our current food systems, there is a need for people from diverse disciplines trained in food systems thinking (cf. Ingram et al., 2020), regardless of the sector or discipline. Often described as multi-, inter-, and trans-disciplinary, sustainable food systems education

(SFSE) is rapidly advancing, with a signature pedagogy that serves as a framework in which future practitioners in this field are educated and equipped to both compete in a dynamic and heterogeneous job market and foster new vocational opportunities for food system transformation (Valley et al., 2018). However, we argue that this training must center equity,<sup>3</sup> particularly racial equity and its intersectional links with other inequities (Ebel et al., 2020; Valley et al., 2020). Concepts of sustainability often focus on environmental aspects with an “equity deficit” that fails to acknowledge connections with social needs, welfare, and economic opportunity for *all* (Agyeman et al., 2003). Several U.S.-based organizations, from the Sustainable Agriculture Education Association<sup>4</sup> to the Inter-Institutional Network for Food, Agriculture, and Sustainability<sup>5</sup> to the Agriculture, Food, and Human Values Society<sup>6</sup>, are starting to compile resources for their membership on how to teach about food systems in ways that center equity given the urgent need to address adverse effects of food production and distribution faced by marginalized populations.

An advancement toward centering equity in SFSE requires a fundamental shift from siloed, disciplinary ways of “seeing” the world to systemic approaches that embrace and work through complexity, uncertainty, and relationships (e.g., de Sousa Santos, 2014). Systemic ways of knowing necessitate adopting a pluralistic approach to acknowledging the importance of diverse stakeholder perspectives in conceptualizing issues and recognizing outcomes and impacts of interventions. An equity-centered approach draws from an emergent understanding of relational systems thinking and cross-epistemological research and teaching (Goodchild, 2021). Sustainable food systems education's engagement with pluralism and equity requires an awareness of historical and current power relations among stakeholders and their communities in order to interrupt the reproduction of systems of oppression within food systems. Developing systems thinking capacities within SFSE programs must center equity in ways that interrupt and interrogate colonialism, white supremacy, patriarchy, heteronormativity, ableism, and the “monoculture of the capitalist logic of productivity” (de Sousa Santos, 2014, p. 174). Not doing so is likely to reproduce the harms and violences of our current food systems (Giordano, 2017; Stein et al., 2017; Bansal, 2018), such as attempts to improve food system outcomes that fail to give explicit attention to race and racializing processes, thereby reproducing racial inequities (Slocum, 2007; Sullivan, 2014; Valley et al., 2020).

Rather than providing an extended analysis of the “why” of centering equity, here we write about the “how” in our own context. This paper describes efforts at several institutions, including multi-institutional collaborations, to develop and

<sup>1</sup>Many people, particularly those from Indigenous and local communities, conceptualize food systems as encompassing the dynamic and reciprocal relationships between people and the places and spaces where we acquire food, prepare food, talk about food, exchange food, or generally gather meaning from food. Others focus more on elements of the food supply chain: “the elements (environment, people, inputs, processes, infrastructures, institutions, etc.) and activities that relate to the production, processing, distribution, preparation, and consumption of food, and the output of these activities, including socio-economic and environmental outcomes” (HLPE, 2017, p. 23). Regardless, food systems are deeply embedded elements of our daily lives and generate impacts across scales.

<sup>2</sup>For expanded debates between philosophies of oppression that go beyond our brief applied perspective, see Nussbaum (1993), Charusheela (2009), and de Sousa Santos (2014). We base our perspective on the work of the Gesturing Towards Decolonial Futures collective (e.g., Stein, 2019) and Mignolo's (2011) colonial matrix of power which addresses the interrelated facets of racism, colonialism, capitalism, enlightenment humanism, the nation-state, etc.

<sup>3</sup>Forms of equity include racial, age/generational, ability, class/economic, culture/ethnicity, gender, health (physical and mental), livelihood/employment, political, religion, sexual orientation, and urban/rural, among other categories of social differentiation.

<sup>4</sup>Sustainable Agriculture Education Association: <https://sustainableaged.org/>.

<sup>5</sup>Inter-institutional Network for Food, Agriculture, and Sustainability: <https://asi.ucdavis.edu/programs/infas>.

<sup>6</sup>Agriculture, Food, and Human Values Society: <https://afhvs.wildapricot.org/>.

apply pedagogical materials that center equity while building students' skills in systems thinking, critical reflection, and affective engagement.

## CENTERING EQUITY IN TEACHING AND FRAMING FOOD SYSTEMS

The cornerstone of our vision for SFSE pedagogy is equity and its full integration into curricula at the undergraduate and graduate level, instead of being discussed in one-off or certain class sessions. What will it take to bring about this vision? Here, we describe two multi-institutional collaborations and efforts by faculty at three different institutions to develop curricula that frame food systems in ways that center equity while fostering essential process skills.

### Multi-Institutional Collaboration for Developing Curriculum to Center Equity Teaching Food Systems Community of Practice

Fully integrating equity into sustainable food systems curriculum necessitates collective work across institutions. We support that a collaborative mechanism such as a Consortium or a Community of Practice (CoP) is critical for the adoption and full integration of equity into curricula. Here, we provide an example of our Teaching Sustainable Food Systems CoP that has been a collaborative mechanism for educators in North America to identify, develop, review, and share curriculum materials for SFSE.

Specifically, the "Teaching Food Systems CoP"<sup>7</sup> was launched in 2016 by faculty members at Columbia University, in collaboration with the Center for Biodiversity and Conservation at the American Museum of Natural History, in parallel with the redesign of an undergraduate food systems course (described below). The goals of the CoP are to convene academics and practitioners focused on SFSE, to: (1) support and grow a CoP for developing and implementing curricula in food systems courses; (2) share materials using systems thinking frameworks to teach about food systems; and (3) foster assessment tools on student learning in systems thinking.

Several CoP members collaborated on a study to determine the extent to which SFSE programs in the U.S. and Canada address equity and proposed an equity competency model to support the development of future professionals capable of dismantling inequity in the food system (Valley et al., 2020). The authors argue that the limited number of SFSE programs explicitly stating equity terms (17%) indicates a significant gap between the knowledge, skills, and attitudes being called for by food justice scholars and activists and the educational outcomes associated with institutions responsible for preparing future professionals. Given the findings, the CoP Subcommittee on Equity, Inclusion, Diversity, and Justice and Indigenous Peoples and Local Communities (EIDJ and IPLCs) developed training materials that explore how teachers and students in undergraduate and graduate STEM classrooms can engage

with EIDJ content in ways that recognize affect—feelings and emotions (Isen et al., 1987). Since affect controls cognitive behavior (Isen et al., 1987; Carver and Scheier, 2001), we support that affect and affective states including emotion, mood, interpersonal stance, attitudes, and personality traits (Scherer, 2005) are recognized within SFSE learning contexts and are critical to centering equity in this context. It is important for sustainable food systems educators to consider the words of Zembylas (2013): "classrooms are not homogeneous environments with a common understanding [or experience] of oppression, but deeply divided places where contested narratives are steeped in the politics of emotions to create complex emotional and intellectual challenges for teachers" (p. 181).

During training sessions with fellow CoP members, the EIDJ and IPLCs Subcommittee asked educators to consider the role of emotion and affective state in key relationships in teaching and learning [between students and teachers, subject matter, fellow students, and developing self, as per Quinlan (2016), as well as between teacher and teacher]. This approach draws from the work of Fawaz (2016) in that explicit attention to the variation and shifting intensity of affective responses can result in productive aspects of encounters with pain and trauma, working to expand students' feelings in order to encourage investment in redressing issues of structural oppression, such as racism, sexism, homophobia, and colonialism. In sustainable food systems, these issues are central and foundational. Ultimately, critical pedagogical strategies must function within the larger context of how structural inequality is operationalized in departments and across campuses. It is imperative to move in the direction of democratic pedagogy, informed by transformational connections coupling the classroom and society. This approach connects education with social and political change, making the classroom a lens in which change and action is understood (de los Reyes et al., 2001), especially when local framing can aid qualitative inquiry<sup>8</sup> (Stanley and Haynes, 2019).

At the same time, such pedagogies pose risks to traumatized students and they demand comprehensive preparation, considerations of safety, and accountability for student well-being (also see Clegg et al., 2021, this issue). Requiring systemically traumatized students to engage affectively can reinscribe marginalization and exclusion from educational environments (Dalton et al., 2017; Cordova-Cobo and Cobo, 2020; Wahl, 2021). Institutional support and resources for this critical trauma-informed preparation may not be as readily available as it should be. Nevertheless, the dual moral imperatives of addressing injustice on the one hand, and not traumatizing already marginalized students on the other, remain in tension. Much of this critical trauma-informed education is both readily available and of basic professional and moral importance. Through recognizing the necessity of considering affect in SFSE curricula, Subcommittee members have identified strategies

<sup>7</sup>Teaching Food Systems Community of Practice: <https://tinyurl.com/44mkzfa>.

<sup>8</sup>As quoted in an interview of scholar Yvonna Lincoln: "There are plenty racial and social injustice issues close to our own institutions, in places where we can explore, with critical qualitative research, scenarios of oppression, inequity, discrimination, and make compelling cases for serious policy revisions" (Stanley and Haynes, 2019, p. 1921).

for developing capacities to be safe, self-aware, accountable, and intellectually generative when engaging with EIDJ content (Table 1; also see Appendix 1 in **Supplementary Material** for supplementary resources for educators).

### **Inclusive Food Systems Curriculum USDA Higher Education Challenge Project**

Faculty from Montana State University, University of British Columbia, and University of Minnesota launched the Sustainable Food Systems Consortium in 2013 and have been collaborating on a project titled “Advancing an Inclusive Food Systems Curriculum based on a Signature Pedagogy” supported by a USDA Higher Education Challenge (HEC) grant focused on creating inclusive and replicable 4-year core curricula models for Baccalaureate degree-level SFSE programs, guided by a signature pedagogy model of cognitive maturation in young adults (Valley et al., 2018) as well as methods for enhancing inclusion of underrepresented students. These curricula models include a range of materials such as curriculum maps, lesson plans, hands-on course activities, and evaluation tools that are aligned to the sustainable food systems signature pedagogy including holistic and pluralistic ways of understanding sustainability challenges, experiential learning, and participation in collective action projects. The learning approaches of the sustainable food systems signature pedagogy are recognized to be inclusive of diversity of perspective and supportive of underrepresented students (Valley et al., 2018) as well as catering to multiple learning styles essential for designing inclusive curricula that account for students’ educational, cultural, and social background and experience (Smith, 2002). Additional inclusion approaches being implemented by participants of this project for centering equity in the curriculum include: (1) focus on complex issues of public welfare; (2) development of civic identity; (3) appreciation of different forms of knowledge and understanding; (4) peer support and; (5) skill development for addressing food system issues in multi-sector and multi-cultural settings (Whittaker and Montgomery, 2012).

Participants of this project further developed adaptable learning outcomes for SFSE where each learning outcome is framed with consideration of justice, equity, diversity, and inclusion (Ebel et al., 2020). As an example of a product of this effort, members of the collaboration at the University of British Columbia published the Just Food Educational Resource<sup>9</sup>, a teaching and learning open education resource for post-secondary instructors and other educators interested in teaching food justice and equity.

Additionally, participants of this project collaborated with the Teaching Food Systems CoP to offer the “Teaching Sustainable Food Systems in Our Times Sandbox Webinar Series<sup>10</sup>,” to provide professional development opportunities for educators to enhance and share knowledge and skills regarding justice, equity, diversity, and inclusion. Multiple webinars in this series provide examples of how to integrate

equity-minded curriculum into teaching and learning including through self-reflection, storytelling, cultural protocol, positionality, Indigenous methodologies, multicultural texts, and community partnerships.

Most recently, HEC grant collaborators partnered with Gesturing Towards Decolonial Futures<sup>11</sup>, an arts/research collective based at the University of British Columbia aiming to identify and deactivate colonial habits of being and to gesture toward the possibility of decolonial futures. Collaborators facilitated a 6-week professional development program for sustainable food systems educators in the U.S and Canada to explore contributions of decolonial perspectives and embodied practices in relation to SFSE.

### **Program and Course-Level Efforts Montana State University**

Faculty of the Master of Science in Sustainable Food Systems and Bachelor of Science in Sustainable Food and Bioenergy Systems at Montana State University (MSU) have been centering equity in the curriculum through evaluation and modification of course content. Specifically, the faculty have been developing content that emphasizes systems thinking, critical and deep reflection, interdisciplinarity, collaboration and communication with diverse stakeholders, future visioning and design, practical skills, experiential learning, and participation in collective action projects (Jordan et al., 2014; Valley et al., 2018). Most recently, MSU faculty have been revising existing curriculum of core courses in the sustainable food systems programs to better align with consideration for equity-minded approaches and content. For example, the “Food Environments and Sustainable Diets” graduate course expanded its focus of examining linkages between food environments, food security, diets, sustainability, and health within the frameworks of socio-ecological theory and policy to also include linkages with equity. Each of the five course units aligned to different dimensions of food environments and sustainable diets were modified to include content and assignments focused on health equity, food access, affordability, cultural, so cultural relevance, food sovereignty, and Indigenous peoples’ food systems. In addition, students of this course participated in the 21-day Racial Equity Habit Building Challenge developed by Food Solutions New England<sup>12</sup> as an experiential assignment. Following participation in the Challenge, students engaged in reflection regarding their experience through pod discussions and written reflections, including their perspectives of applying learnings and awareness to their work in the food system. The course syllabus for “Food Environments and Sustainable Diets” can be found in **Supplementary Material**.

### **Rutgers University**

Rutgers School of Public Health’s Public Health Nutrition Concentration within its Master of Public Health program

<sup>9</sup>Just Food Educational Resource: <https://justfood.landfood.ubc.ca/>.

<sup>10</sup>Teaching Sustainable Food Systems in Our Times Sandbox Webinar Series [https://waferx.montana.edu/sandbox\\_webinar\\_series.html](https://waferx.montana.edu/sandbox_webinar_series.html).

<sup>11</sup>Gesturing Towards Decolonial Futures: <https://decolonialfutures.net/>.

<sup>12</sup>21-day Racial Equity Habit Building Challenge developed by Food Solutions New England: <https://foodsolutionsne.org/21-day-racial-equity-habit-building-challenge/>.

**TABLE 1** | Strategies for educators to consider the role of emotion and affective state when centering equity in sustainable food systems education.

Strategies	Examples and tactics	Key resources
<p><b>Learn about and practice trauma-informed teaching</b>, including the need to realize, recognize, and respond in the classroom setting<sup>a</sup>.</p>	<p>Consider how course content is likely to activate and unsettle students. To engage in care:</p> <ol style="list-style-type: none"> <li>1. Do assume many students are traumatized.</li> <li>2. Do focus on empowering ways of relating (consent, giving control).</li> <li>3. Be prepared to do the work (e.g., address lack of knowledge, unawareness of unconscious biases, and assumptions in yourself and others, through learning about trauma-informed teaching and building support within institutions for this work).</li> <li>4. Do prepare students for difficult material or processes.</li> <li>5. Do give power to students to care for themselves by turning off cameras, declining to participate in activities, and being observers rather than participants.</li> <li>6. Do plan for the extra time it takes to hold space for processing and reacting.</li> </ol> <p>Specific harms to avoid:</p> <ol style="list-style-type: none"> <li>1. Do not address content related to systems of historical and on-going forms of oppression without first seeking resources to support completing self-awareness work and basic education (see example resources in next column).</li> <li>2. Do not make assumptions about identity, migration, citizenship, or race based on appearance or language skills.</li> <li>3. Do not tokenize marginalized/racialized students or focus on them as representatives when issues arise.</li> <li>4. Do not provoke/require students to relive or re-tell individual stories of trauma in class or assignments.</li> </ol>	<p>Zembylas, 2013; Fawaz, 2016; Thomas et al., 2019; Cordova-Cobo and Cobo, 2020; Valley et al., 2020; Clegg et al., 2021, this issue; resources in Appendix 1 in <b>Supplementary Material</b></p>
<p><b>Articulate course goals that center affective capacities</b> to engage with topics of privilege, oppression, equity, and justice, while recognizing that marginalized students have often already been forced to develop affective skills for surviving daily experiences of systemic oppression, and that evaluations based on retraumatizing activities are unjust.</p>	<p>Avoid role playing where students of one background have to assume the role of an individual from a traumatized group, especially if there might be members of that traumatized group in the classroom.</p>	<p>de los Reyes et al., 2001; Stanley and Haynes, 2019</p>
<p><b>Recognize and consider the difference between individual and collective affective states in a classroom.</b></p>	<p>Incorporate activities throughout a course that draw attention to individual affect that can both facilitate and distract from academic participation, as well as recognize collective affect circulating at the group level.</p> <ol style="list-style-type: none"> <li>1. One example of such an activity is inspired by the body-based practices in Menakem (2017) and can be conducted together with students before engaging with material that can impact affective load and circulation.</li> <li>2. Breathe: Ask students to take a deep breath, inhaling slowly through the nose, letting chest, and belly expand, then exhaling through the mouth.</li> <li>3. Scan and Connect: Invite students to settle in, feet flat on the floor, engage their core, straighten back and shoulders, tuck chin in, and breathe in deeply again and hold the breath while connecting with sensations in their body, noticing areas of constriction, tightness, pain, emptiness, mood, energy. Ask students to try to identify the sensations within their body.</li> <li>4. Release: Ask students to breathe in, hold their breath, raise their shoulders to their ears, clench jaw, tighten all the muscles in their body and hold for three counts, then release (loudly if preferable). Repeat two more times.</li> <li>5. Reflect: Ask students to think about the sensations they felt during the exercise, and ask them to pay attention to when they feel these sensations throughout their day and what causes these feelings to occur, to raise awareness of how affect is manifest within their body.</li> </ol>	<p>Nahl, 2004; Dalton et al., 2017; Menakem, 2017; Kubala, 2020</p>
<p><b>Address potential lack of knowledge or awareness by educators, school administrators, and students about unconscious biases and assumptions.</b></p>	<p>By understanding, and promoting the understanding by others of, the harms that can occur in teaching and learning about SFSE and by focusing on empowering ways of relating to the various identities and life experiences of students, educators can be more prepared for uncertainty and to facilitate confrontation.</p>	<p>Dee and Gershenson, 2017; Tate and Page, 2018 (note, neither directly engages SFSE); Valley et al., 2020</p>

(Continued)

TABLE 1 | Continued

Strategies	Examples and tactics	Key resources
<p><b>Be accountable for the process of engaging in these topics with students</b>, and open to feedback from students and fellow educators. Work to recognize the potential for critical pedagogy—driven by education centered on both social change in the classroom and throughout society—“driven by diverse ideas, options, backgrounds, groups, and theories.” (McArthur, 2010, p. 494).</p>	<p>Ultimate accountability goes beyond objectives and goals on the front end (course design) and evaluations on the back end. Educators should consider who is and is not in the classroom, and should build meaningful relationships with community partners through collaborations and pluralized design, where course content is co-planned and co-produced with invited community partners.</p>	<p>Mountz et al., 2008; McArthur, 2010; Stein et al., 2020, 2021</p>
<p><b>Challenge students to consider the complexity of how ecological sustainability and social equity and justice intersect and interplay in real world situations.</b></p>	<p>By exploring dilemmas presented in the real world, students build an understanding, appreciation, and desire to have the broad scope of considering sustainability and equity in food system challenges and solutions. One example of this is to explore avocado production in Mexico. Avocados are often a favorite food of many students who have not considered how they are causing forest destruction and encroaching on monarch butterfly sanctuary land, or how the people producing avocados for export are experiencing human rights abuses. Using a popular food, avocados, to explore interconnections of sustainability and equity enables students to expand their resolve to think broadly when encountering all food system issues.</p>	<p>Leonard, 2019; Mondragón and López-Portillo, 2020</p>

<sup>a</sup>“Realize the widespread impact of all forms of trauma—including racial and historical trauma—on children’s development and school functioning as well as the diversity of student responses to trauma...recognize the signs and symptoms of all forms of trauma in students and families...respond by fully integrating knowledge about all forms of trauma into policies, procedures, and practices, and seek to actively resist re-traumatizing students and families” (Cordova-Cobo and Cobo, 2020, para. 6).

has also been centering equity within its curriculum. Two of the required courses, “Global Food Systems and Policy” and “Global Food and Culture” were designed to provide students with a deeper understanding of the elements of the food system and how they influence nutrition, health, environmental, social, economic, and equity outcomes. Equity is addressed throughout these courses in lecture content, assigned readings, videos and podcasts, in-class discussions, and assignments.

Assignments include reflections that require students to critically think about topics such as cultural appropriation of food, how food production systems influence our diets, how to intervene within the food system to improve health and equity outcomes, among others. By encouraging students to critically examine the root causes of inequity throughout our food systems they will be better positioned to identify solutions aimed at addressing it in their future work. Course syllabi and descriptions of the assignments can be found in **Supplementary Material**.

### Columbia University

First developed and offered by Columbia University’s Department of Ecology, Evolution, and Environmental Biology in 2011, “Food, Ecology, and Globalization” was a broad survey course for science and non-science majors with a focus on the factors that influence food choice and the implications of those choices at many scales. In 2018 and 2020, a core team of instructors redesigned the course to more intentionally center racial equity and food justice, working with students through each class session to explore the context for how racism and equity operate within food systems with a key learning outcome that students be able to understand and describe why equity is at the heart of food system transformation. For example, in 2020,

the core team collaborated with Spiller (UNH) to develop a new course session “Introduction to Systems Thinking as a Tool For Understanding Food Systems and the Role of Racism in Food Systems.” During this virtual session, students were introduced to a framework for understanding levels of racism developed by Race Forward: The Center for Racial Justice Innovation (2014), and applied this framework to food systems, then worked in breakout groups to use the systems thinking tool “rich pictures” to visualize the topic and analyze the role of racism within food systems. This session, and several others throughout the course, focused on the use of innovative tools to bridge different levels of content knowledge and surface systemic drivers of social-ecological systems (several of the materials used in the course were published by the Network of Conservation Educators and Practitioners<sup>13</sup>, see Betley et al., 2021a,b, and Paxton et al., 2021). The course syllabus and descriptions of the assignments can be found in **Supplementary Material**.

## DISCUSSION

Given the harmful social and environmental externalities of food systems and ongoing oppression and systemic inequities, it is critical for equity, and particularly racial equity, to be a central focus in efforts to advance SFSE. However, few resources exist regarding how to engage students in equity and related topics in SFSE. Here, we provide examples of multi-institutional collaborations and program efforts to develop and apply pedagogical materials that center equity while building students’ skills in systems thinking, critical reflection, and affective engagement. Importantly, we support collaborative mechanisms for identifying and sharing pedagogy such as

<sup>13</sup>Network of Conservation Educators and Practitioners: <https://ncep.amnh.org/>.

the Teaching Food Systems CoP and the Inclusive Food Systems Curriculum USDA HEC project. These are examples of multi-institutional collaboratives to facilitate co-development of pedagogical approaches to teaching and framing food systems that center equity.

All of the efforts we describe have reinforced to us, as educators, the need to engage both colleagues and students in these equity-centered discussions, and the need for continual professional development to improve the ways in which we engage. For example, simply adding content about racial equity to a course syllabus is insufficient and can perpetuate harms against racialized students who may be systemically traumatized. We encourage sustainable food systems educators to carefully study and consider how they incorporate affect in their pedagogical approaches, with strategies presented in **Table 1** as a possible starting point including specific tactics that have been successfully employed in our classrooms. We also encourage the development, expansion, and strengthening of new and existing multi-institutional collaborations that broaden our understanding of how best to develop future professionals capable of effective decision-making in a complex world, and allow educators to share resources and lessons learned from varied and iterative approaches across diverse student populations.

## DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/**Supplementary Material**, further inquiries can be directed to the corresponding author.

## AUTHOR CONTRIBUTIONS

SAh, SAk, EB, ES, LT, and WV led the conception and design of the perspective. DC, BI, LT, and WV developed content on affective considerations for educators when engaging with EIDJ content. EB and ES led the drafting of the manuscript and all authors contributed to writing and revision. All authors gave final approval of the version to be published.

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## SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/fsufs.2021.737434/full#supplementary-material>

**Supplementary Data Sheet 1** | Appendix 1: Selected training and resources for educators to **Supplement Table 1**.

**Supplementary Data Sheet 2** | Syllabus for Food Environments and Sustainable Diets (Montana State University).

**Supplementary Data Sheet 3** | Syllabi for Global Food Systems and Policy and Global Food and Culture (Rutgers University).

**Supplementary Data Sheet 4** | Syllabus for Food, Ecology, and Globalization (Columbia University).

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