

## ABSTRACT

A First-Year Seminar course was designed using high-impact practices supporting food justice at a university serving mainly urban, minority, Hispanic, and first-generation students. The course was initially taught using participatory experiential learning but without service-learning. After an urban farm was added to campus to support the institutionalization of a garden-based service-learning program, the course was redesigned to add a service-learning component. Students were required to work at the farm composting, cultivating, and harvesting food for distribution to fellow food-insecure students for a minimum of ten hours throughout the semester. Service-learning students, as opposed to participatory experiential learning students, reported overall greater satisfaction with the course and its activities, had a 3% higher grade point average and a 9% lower drop, fail, and withdrawal rate. Service-learning students expressed a connection to campus community, a sense of feeling cared for, greater awareness of food justice issues and the ability to work toward community-based solutions and grow their critical consciousness. The added service-learning component significantly improved course outcomes and provided much needed assistance in the development of a new garden-based program.

## Institutionalizing Service-Learning to Address Urban Campus Food Justice

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### Introduction

The institutionalization of service-learning at universities serving mainly urban, minority, Hispanic, and first-generation students is integral to student success and retention. This investigation uses garden-based service-learning and participatory experiential learning in a First-Year Seminar to address issues of food justice affecting an urban campus and the surrounding community. For the purposes of this investigation, experiential learning is defined here as the cognitive incorporation of sensations gained through exposure or involved contact. It includes the experience itself, which is later reflected upon and subsequently assimilated as new knowledge. Experience without reflection and assimilation is just experience. Service-learning is fundamentally experiential learning with the addition of meaningful engagement with critical issues facing a community.

Mitchell (2008) makes the distinction between “traditional” versus “critical” service-learning. According to Mitchell (2008) and others, traditional service-learning models may go no further than required volunteerism or charity (Forbes *et al.*, 1999; Cipolle, 2010). In contrast, critical service-learning incorporates a “social change orientation, working to redistribute power and developing authentic relationships” or relationships based on a true connection (Mitchell, 2008). Building courses and programs around service-learning is a high-impact practice employed by many universities to improve student learning outcomes (Chute, 2017).

The First-Year Seminar experience is another high-impact practice available to freshmen to support them in engaging with campus life early in their academic career and developing supportive relationships with faculty, staff, and peers. These experiences are shown to promote student engagement, improve student outcomes, and boost retention rates (Ben-Avie *et al.*, 2012; Skipper, 2017). These classes are typically smaller than average undergraduate general education courses to encourage meaningful faculty-student and peer-to-peer interactions. They employ a variety of best practices for deeper learning such as developing an academic mindset, gaining critical awareness, and becoming self-directed (Ben-Avie *et al.*, 2012; Skipper, 2017).

California State University Dominguez Hills (CSUDH), its students and surrounding community of south Los Angeles have long suffered the effects of disinvestment and environmental racism. With the most diverse student population among the 25 universities located in Los Angeles County, CSUDH is a Minority-Serving Institution (MSI), Hispanic-Serving Institution (HSI), and Predominantly Undergraduate Institution (PUI). Underrepresented minorities are 76% of the student body, 67% are first-generation college students, and 64.2% are eligible for Pell grants (Fall 2017 data).

According to a recent study by the National Student Campaign Against Hunger and Homelessness (Dubick *et al.*, 2016), food insecurity is more prevalent among students of color. Fifty-seven percent of Black or African-American students reported food insecurity, compared to 40% of non-Hispanic white students. Additionally, more than half of all first-generation students (56%) were food insecure, compared to 45% of students who had at least one parent who attended college. At CSUDH, 9 in 10 students are students of color, and 90% receive some kind of need-based financial aid and prone to food insecurity based on our demographics.

The CSUDH campus is located in South Los Angeles (LA), which has 0.57 full-service grocery stores per every 10,000 people, in contrast to west LA, which has 1.03 full-service grocery stores per every 10,000 people (Fox, 2017). Shaffer (2002) calculated that “[i]n Los Angeles County, zip codes whose populations are 40–100% white have an average of 2.21 times as many supermarkets per person as compared to zip codes where the population is 40–100% African American.” Various measures of health, including diabetes, also correlate with ones distance to a supermarket. Additionally, 73% of South LA restaurants sell fast food, as compared to 42% in West LA (Murray, 2015). This food apartheid has left generations of CSUDH students disadvantaged to cook and eat healthy, daily meals. Addressing food justice issues at CSUDH through service-learning requires an understanding of the unique culture and built environment of South LA as an urban campus serving disadvantaged communities.

The course used a garden-based approach as the focal point for service-learning activities to address food justice issues. The institutionalization of the program required 1) partnerships and collaboration, 2) administrative support, 3) the infrastructure of the farm itself, and 4) long-term planning (Bringle & Hatcher, 2000). Through a collaborative effort between students, faculty, and facilities, the proposal for the CSUDH Urban Farm was approved by Presidential Cabinet in February 2018. Financial backing from the CSU Chancellor’s Office via a “Campus as a Living Laboratory” grant was used to support its launch.

## Course Objectives

The course built a garden-based program to act as a living laboratory and an epicenter for institutionalized service-learning. Its goals were to provide students with a high-impact educational experience and to use service-learning as scaffolding by which students could build authentic relationships and true connection to campus life. By serving the CSUDH community, students would more readily assimilate into campus life, thereby increasing student success and retention. Develop a food production and distribution network on campus. Students would develop critical awareness of food justice issues and work toward community-based solutions. Identify issues or problem areas that require future research and curriculum improvement.

## Methods

The First-Year Seminar course is listed in the university catalog as UNV 101 Personal, Social and Intellectual Development. In addition to fulfilling an Area E Lifelong Learning and Self-Development General Education requirement, the seminar provides small class sizes (no more than 25 students) to facilitate faculty-student mentorship to all incoming first-year students as part of student-success initiatives. Faculty develop discipline-based curricula using high-impact educational practices such as learning outside the classroom and meaningful student-faculty and peer-to-peer interactions that encourage freshmen to explore and engage in campus life—all intended to promote student engagement, improve student outcomes, and boost retention rates (Ben-Avie *et al.*, 2012; Skipper, 2017). Courses run for a full 16-week semester for 3 credits.

The discipline-based subtopic for the course developed for this study was Urban Agriculture and included themes from Environmental Studies such as food apartheid, food security, food waste, pollution, the history of American agriculture, the globalization of food production, and the resulting social and environmental consequences.

The course was taught during the spring semester with an experiential learning component but without a service-learning component and again during the fall semester with a service-learning component added. Perceived teaching effectiveness surveys were administered by the university for each course toward the end of the semester. During the fall semester, a pre-survey was conducted towards the beginning of the semester and a post-survey was conducted towards the end of the semester, both administered through the CSUDH Center for Service Learning, Internships & Civic Engagement (SLICE) to assess the service-learning component added to the course.

## Course Design

In both spring and fall semesters, students were asked to engage in the same amount of activities both inside and outside of the classroom, answer in class questions with free writing, develop a final presentation given at the end of the semester, and complete both a midterm and final exam. Spring semester only, students were required to attend and write about their experiential learning for various campus activities including the annual Earth Day celebration, Environmental Justice Fair, tour of the new CSUDH Urban Farm, and the Community Engagement Symposium, an annual SLICE event. Other activities included exploring the various food options on and around campus (and the lack thereof), including several food banks available to students.

The activities during the spring semester included high-impact practices to encourage students to investigate and use campus resources outside the classroom but excluded any specific service-based component. In particular, the spring semester students were encouraged to participate in a variety of campus activities pertaining to environmental, food, and service-related issues, learning about what others were doing to make an impact, and to reflect and write about their learning. Spring was the first semester that the CSUDH Urban Farm was open on campus, and the UNV 101 students went on a tour where they were told what activities were being developed by other students at the farm, but they were not required to volunteer.

Fall semester only, students were required to engage in activities such as composting, food cultivation, harvesting, and food distribution at the CSUDH Urban Farm for a minimum of ten hours throughout the semester. Fall students were asked to keep a reflection journal chronicling their weekly experiences in service-learning to provide a structured opportunity for reflection. The reflection journal assignment required students to include the date and time spent on each service-learning activity they undertook, a description of the activity, and a reflection on the experience and any thoughts on how the activity related to issues discussed in class. Students were asked to use the notes in their reflection journal to write a two-page reflection paper on how their service impacted their understanding and learning of the course material. Five hours were dedicated to keeping a reflection journal, writing a reflection paper and giving a final presentation in class for a minimum of 15 hours of service related activities in total. Not only were fall students required to work at the farm as part of their grade, they were encouraged to bring food waste from home to compost.

All students, in both spring and fall semesters, were informed that the food harvested from the farm would be distributed to students for free through campus food banks to address food insecurity on campus. The number of activities was equivalent for both semesters and the same themes were talked about during the lecture portion of both courses. Both spring and fall courses incorporated a reflection practice to integrate experiences, examine beliefs, and gain deeper understanding. The spring course required students to free write on questions posed in class related to their activities, receive feedback, and then take their writing home and further expand on it in a formal essay. The fall course's reflective practice took the form of a weekly reflection journal entry for which students received feedback and which they expanded into a formal reflection paper. Incorporating a reflective practice for the experiential learning in the spring and a service-learning component in the fall is a high-impact practice that seeks to bridge the gap between experience and theory (Bringle & Hatcher, 1999).

## Results

The service-learning survey, conducted toward the beginning of the fall semester, received 26 responses from the 26 students enrolled in the course (100%). A post-survey, conducted toward the conclusion of the fall semester to gauge changes resulting from experiences gained (Table 1), received responses from 19 of the 24 students (79%) enrolled in the course. Respondents answered 5 multiple-choice questions in both the pre- and post-survey, with the option of making an additional comment for the post-survey only (Table 2). Additionally, 2 short-answer questions were asked in the post-survey only; responses are included in Table 2.



**Table 1.** Service-learning survey, where n=26 for a=pre-survey and n=19 for b=post-survey, reported in percentage, with number of respondents below. Questions 6b and 7b were short answer, post-survey only, with results included in Table 2.

| Questions (a=pre-survey, b=post-survey)   | Strongly Agree |          | Agree      |          | Neutral   |          | Disagree |                   | Strongly Disagree |  |
|---|----------------|----------|------------|----------|-----------|----------|----------|-------------------|-------------------|--|
|   | Agree          | Disagree | Agree      | Disagree | Neutral   | Disagree | Disagree | Strongly Disagree | Strongly Disagree |  |
| Q1a Do you think this experiential learning activity (service-learning) will relate well to your course curriculum?   | 46.2<br>12     | 0.0<br>0 | 38.5<br>10 | 0.0<br>0 | 15.4<br>4 | 0.0<br>0 | 0.0<br>0 | 0.0<br>0          | 0.0<br>0          |  |
| Q1b Do you think your experiential learning activity (service-learning, internship, or volunteering) related well to the course curriculum?   | 63.2<br>12     | 0.0<br>0 | 31.6<br>6  | 0.0<br>0 | 5.3<br>1  | 0.0<br>0 | 0.0<br>0 | 0.0<br>0          | 0.0<br>0          |  |
| Q2a Do you feel the service activity will give you a better understanding of the classroom curriculum?  | 46.2<br>12     | 0.0<br>0 | 38.5<br>10 | 0.0<br>0 | 15.4<br>4 | 0.0<br>0 | 0.0<br>0 | 0.0<br>0          | 0.0<br>0          |  |
| Q2b Do you feel you have a better understanding of the classroom curriculum from this experience?   | 52.6<br>10     | 0.0<br>0 | 47.4<br>9  | 0.0<br>0 | 0.0<br>0  | 0.0<br>0 | 0.0<br>0 | 0.0<br>0          | 0.0<br>0          |  |
| Q3a Do you think this project will help the community or agency you will be working with? (i.e. solve problems, advocate for their cause effectively, help educate others about the cause, raise the profile of the community/agency, help them with their work?) | 42.3<br>11     | 0.0<br>0 | 38.5<br>10 | 0.0<br>0 | 19.2<br>5 | 0.0<br>0 | 0.0<br>0 | 0.0<br>0          | 0.0<br>0          |  |
| Q3b This experience helped the community or agency (i.e. solved problems, advocated for community cause, helped educated about the community, raised the profile of the community, helped them with their work).  | 42.1<br>8      | 0.0<br>0 | 42.1<br>8  | 0.0<br>0 | 15.8<br>3 | 0.0<br>0 | 0.0<br>0 | 0.0<br>0          | 0.0<br>0          |  |
| Q4a Do you think students from other courses would benefit from this type of experiential learning?   | 50.0<br>13     | 0.0<br>0 | 42.3<br>11 | 3.9<br>1 | 3.9<br>1  | 0.0<br>0 | 3.9<br>1 | 0.0<br>0          | 0.0<br>0          |  |
| Q4b Students from other courses would benefit from this type of experiential learning.  | 42.1<br>8      | 0.0<br>0 | 47.4<br>9  | 0.0<br>0 | 10.5<br>2 | 0.0<br>0 | 0.0<br>0 | 0.0<br>0          | 0.0<br>0          |  |
| Q5a Do you think that this experience will change/affect your thinking about the community/agency, its problems and or the solutions to the problems?   | 50.0<br>13     | 0.0<br>0 | 30.8<br>8  | 0.0<br>0 | 19.2<br>5 | 0.0<br>0 | 0.0<br>0 | 0.0<br>0          | 0.0<br>0          |  |
| Q5b This experience affected my thinking about the community (or agency), its problems and or the solutions to the problems?  | 47.4<br>9      | 0.0<br>0 | 52.6<br>10 | 0.0<br>0 | 0.0<br>0  | 0.0<br>0 | 0.0<br>0 | 0.0<br>0          | 0.0<br>0          |  |
| Q6b Explain how this experience affected any of the following: attitude toward the community/agency, goals (personal, academic, or career). How did this experience affect you?   |                |          |            |          |           |          |          |                   |                   |  |
| Q7b How did this experience give you a better understanding of your course (i.e. facts, ideas, viewpoints)?   |                |          |            |          |           |          |          |                   |                   |  |

**Table 2.** Results of service-learning survey including the category to which the comment pertained, the number of respondents making similar comments, and the percentage of the total comments made (n=113).

| Category                                     | Respondents | Percentage |
|--|-------------|------------|
| Importance of Urban Food Production          | 11          | 10%        |
| Preventing Food Waste                        | 16          | 14%        |
| Importance of Food Security                  | 13          | 12%        |
| Preventing Pollution                         | 10          | 9%         |
| Change in Attitude/Understanding/Perspective | 25          | 22%        |
| Benefit of Learning from Activities          | 34          | 30%        |

Comments in Table 2 were analyzed according to the major themes discussed during the semester by how often the themes appeared and what specific words were used. Statements addressing the importance of urban food production made up 10% of the comments with 11 responses. One student said, “This experience got me to connect with the community and actually got me to grow and maintain a farm.” Also representative of this category were comments like, “Going to the urban farm gave me experience about how to start a small farm even if we live in the city,” and “helped me to want to start a farm in my backyard.”

Issues of preventing food waste, including the importance of composting, was another popular theme and made up 14% of the overall comments with 16 responses. Wasted food is a major contributor to global greenhouse-gas emissions and climate change and comprises nearly a third of the total refuse in LA (Fox, 2018). Some students expressed a potential behavioral change regarding food waste: “This experience affected me because I have a deeper understanding towards food waste. I was also able to learn little things that I could do to help eliminate food waste every day.” All the remarks concerning composting were of a positive nature.

Importance of food security comments were mostly intertwined with helping the campus community by growing food, “This helped my school’s community because all the food that we were able to grow at the farm was given back to the students that attend CSU Dominguez Hills.” This category made up 12% of the total comments with 13 responses. Preventing pollution, including issues of recycling, was mentioned in 9% of the responses with 10 references: “It gave me solutions to problems we face in our daily lives, in this case overcrowding landfills with trash.”

Many students (25 responses and 22% of total comments) expressed a change in attitude/understanding/perspective that was beneficial to them, often using the terms “opened my eyes” or “opened my mind.” Direct and to the point, one student said, “I’ve changed the way I see food.” They also expressed ideas about how to apply their knowledge: “It has made me more wanting to be in the government and help fix laws and make them so they can help the environment.”

By far, the largest number of comments expressed how students experienced a benefit of learning from activities, making up 30% of the total responses (34 out of 113): “I was very surprised by the way the class grabbed my attention based on the way the class was structured”; “It allowed me to physically experience what we learn in class by working in the farm.”

Perceived teaching effectiveness surveys, administered by the university, were conducted for both spring and fall courses toward the end of the semester. The results were within normal variation between two separate versions of the same course, except for what might be done to improve the instructor's teaching in the course (Table 3). In the spring course (without service-learning), 3 students reported that nothing further was needed, while 5 students requested some variation of more activities and fewer lectures such as "more time at the farm"; 6 students did not answer the question (n=14). Near the conclusion of the fall semester (with service-learning), 9 students reported that nothing further was needed, while 2 students requested more explanation and 1 student requested more student-faculty interaction, with 2 students not responding to the question (n=14). In each semester, one student dropped the course after the third week of class, leaving 24 students in the spring and 25 in the fall semester. The participation rate in the spring was 58% for the survey and 33% for the question to improve the instructor's teaching. The following fall semester, the participation rate was 56% for the survey and 48% for the question concerning instructor's teaching.

**Table 3.** Perceived teaching effectiveness surveys comparing student responses to the question, "What might be done to improve the instructor's teaching in this course?" There were 24 students total in the spring and 25 in the fall (excluding students that dropped); 14 students responded to the survey each semester.

| Spring (n=14)                    | Respondents |
|----------------------------------|-------------|
| Nothing                          | 3           |
| More Activities/Fewer Lectures   | 5           |
| Fall (n=14)                      |             |
| Nothing                          | 9           |
| More Explanation                 | 2           |
| More Student-Faculty Interaction | 1           |

The number of activities between the two semesters was roughly equivalent in terms of the assignments except for that activities in the spring were participatory in nature without a direct connection to service-learning. The spring course also gave students less time outside the classroom. Additionally, activities during the spring often included going to another building on campus. With the exception of Earth Day, the Environmental Justice Fair, and the CSUDH Urban Farm tour, all other activities were held indoors for a total of 3 hours and 45 minutes of class time. Comparatively, fall semester offered students the possibility of 13 hours of outdoor class time, of which ten hours were required. More than half (56%) of the fall students logged more outdoor service-learning hours at the farm than was required for their grade (Table 4).

The grade distribution between spring and fall semesters did not differ significantly, aside from normal variation between two separate courses on the same topic (Table 5). The average grade during the spring semester was 2.71 (n=24), while it was 2.80 (n=25) during the fall semester (an increase of 3%); overall both courses averaged a B-minus. Notably, 3 students (13% of the class) received a zero or F grade in the spring semester whereas only 1 student (4% of the class) received a zero or F grade during the fall semester. Additionally, 1 student dropped after the 3<sup>rd</sup> week of the

spring and fall semesters, leaving 24 students in the spring and 25 in the fall. The drop, fail, and withdrawal rate (DFW) was 17% (4 students) for the spring semester and 8% (2 students) for the fall semester.

**Table 4.** Service-learning hours fall students worked at CSUDH Urban Farm. A total of 13 hours was available for students to work, ten hours were required for the course.

| Student | Hours | Student | Hours | Student | Hours | Student | Hours | Student | Hours |
|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|
| #1      | 0     | #6      | 9     | #11     | 10    | #16     | 12    | #21     | 13    |
| #2      | 6     | #7      | 9     | #12     | 11    | #17     | 12    | #22     | 13    |
| #3      | 6     | #8      | 9     | #13     | 11    | #18     | 12    | #23     | 13    |
| #4      | 7     | #9      | 10    | #14     | 11    | #19     | 12    | #24     | 13    |
| #5      | 8     | #10     | 10    | #15     | 12    | #20     | 12.5  | #25     | 13    |

**Table 5.** Letter grade and grade point average (GPA) distribution comparing spring and fall semesters and number of students receiving that grade.

| Grade | GPA  | Spring | Fall | Grade | GPA  | Spring | Fall |
|-------|------|--------|------|-------|------|--------|------|
| A     | 4    | 3      | 7    | C     | 2    | 2      | 3    |
| A-    | 3.67 | 6      | 3    | C-    | 1.67 | 1      | 0    |
| B+    | 3.33 | 3      | 5    | D+    | 1.33 | 0      | 1    |
| B     | 3    | 3      | 1    | D     | 1    | 1      | 2    |
| B-    | 2.67 | 2      | 2    | D-    | 0.67 | 0      | 0    |
| C+    | 2.33 | 0      | 0    | F     | 0    | 3      | 1    |

## Discussion

The service-learning survey in Table 1 indicates that, overall, the pre-survey expectations of the course were met effectively by the time of the post-survey. When asked if the experiential learning related well to the course curriculum, 94.8% of students reported favorably (Table 1); one student commented, “I do believe this was a great way of learning the course. When we have a class session, we are able to reflect on it, then we go into service-learning.”

One of the more difficult tasks at the farm is turning the compost pile. None of the students had ever composted before. Several issues related to composting were discussed during lecture over the semester, including global food waste, the addition of greenhouse gases from food production, fertilizer pollution, and dead zones. Students were asked to bring food waste from home to contribute to the compost pile. While it was certainly not their favorite activity, students worked in self organized groups and rotated tasks in a coordinated effort to work on composting. “It helped me interact more with my classmates, working in groups to get a task done.” By the end of the semester, students reported a real sense of accomplishment and even astonishment that food could be turned into dirt and dirt could be turned into food: “Visiting the farm taught me that our food waste could be taken back into the soil to help make the soil rich in nutrients again.”



The physicality of farm work is well suited to experiential learning, as it provides students with tactile, embodied experiences that then become cognitively associated with the academic material. All of the students reported that they had a better understanding of the course curriculum because of their experiences at the farm (Table 1): “I feel that I do have a better understanding of the classroom curriculum because when we would go to the farm, a lot of it was hands-on learning.”

The majority of students reported feeling that they had been of service to their community (Table 1), although community identification varied somewhat between students. The majority identified with CSUDH and the surrounding community: “We helped a community of students at Dominguez Hills who do not always have the benefit of eating [fresh] food every day and to bring awareness on stuff we can do in an urban environment to grow your own farm.” A few students reported identifying with the global community by helping with greater issues of pollution and climate change: “I was able to learn about recycling and helping the planet more.” As one of the course objectives is to use service-learning as scaffolding to build authentic relationships and true connection to campus life, a more structured discussion of various communities seems warranted, particularly to examine student belonging in the campus community in addition to all the other community identifications they experience in their lives.

The course offers additional opportunities for deeper learning. Students could not only reflect on helping their communities but work to address the root causes of the problems they face. An orientation toward social change is pivotal for critical service-learning (Mitchell, 2008). Asking the students to reflect on the relationship between the ability to grow food and the redistribution of power would help to further these objectives. The conditions of food apartheid in South LA have been well recognized for decades (Shaffer, 2002). Most of the students in this first-year seminar are local and have lived their entire lives surrounded by a broken food system. If students were given the opportunity to consider the imbalance of power that leads to these injustices, they might discover how having the ability to feed oneself healthy, nutritious food is a radical act that shifts power into their hands.

Surprisingly, when students were asked on the post-survey whether they believed other students would benefit from this type of learning experience, many responded in the negative. Paradoxically, respondents overwhelmingly reported having a net positive outcome from taking the course but were less inclined to agree that this type of learning experience might be beneficial to other students. Three of the total of 15 responses (20%) stood out. One student remarked, “It might not be everyone's forte because we do get dirty.” This sentiment was voiced by several students during the semester. Accommodations were made to adjust activities to their interest and comfort level, while they were urged to explore an unfamiliar environment outside their comfort zone. Another student said, “I would say it depends on the student because if they aren't interested, it's a waste of time,” while the third said, “I feel that if a student wants to learn more about how to care for our planet, they would learn a lot from this course.” the implication being that the desire to learn might not always be present.

Student interest and commitment are essential in any course. However, a high-impact educational experience—particularly garden-based service-learning—requires a greater level of responsibility and self-direction (Aftandilian & Dart, 2013). Similar courses have also emphasized the need for students to take ownership of service-

learning activities to gain a sense of empowerment and accomplishment (Rhoads, 1997; Ward, 1999; Mitchell, 2008; Aftandilian & Dart, 2013; Archiopoli & Murray, 2019). The nature of the service work involved may need to be more explicitly stated in the university catalog and/or emphasized at the beginning of the semester so that those who lack interest can self-select early on and find other courses that are a better fit.

All the students reported that the experience affected their thinking about the problems and solutions discussed in class: “I understand important matters going on behind our very eyes, and I have options to do something about it.” Many of the comments implied that they had been given a lot to think about: “I wasn’t aware of all the food waste and ways we can help grow our own food. This course helped me see many of the problems there are, which then makes me wonder how I would like to live in my future.” The development of critical consciousness takes time (Cipolle, 2010). Guiding students in the course to develop critical awareness of food justice issues plants the seed for them to continue growing in awareness in the years to come.

All the students reported a positive impact on themselves or their attitude towards the community. “It affected me very positively, I have learned what bonding with nature is all about, as well as how to respond to certain environmental problems.” One student remarked, “It just shows the school actually cares.” In this remark, “the school” is the CSUDH community, and the implication is that the community cares about the student(s). Feeling cared for by a community to which one has given service is an indication of the development of an authentic relationship in critical service-learning (Mitchell, 2008).

During the spring semester the CSUDH Urban Farm was still in its infancy, having been approved only in February of that year. The spring semester course included participatory experiential learning activities, but students did not work on the farm or participate in any other service-learning activity in the course. The perceived teaching effectiveness survey was used to compare the spring and fall versions of the course. The results indicated a significant difference in student comments about how to improve the instructor's teaching in the course. Fourteen participants responded to the survey in each semester, with a participation rate of 58% for spring and 56% for fall, the difference being statistically insignificant.

Notably, during the spring semester, only 33% of the students answered the question of how to improve the course, and 5 of the 8 students who responded (63% of respondents) requested some variation of more activities and fewer lectures. In contrast, during the fall semester, 48% of students answered the question, and 9 of the 12 (75% of respondents) reported that nothing further was needed to improve the course.

This disparity between the two semesters is likely not related to the number of activities, as students were given the same number of activities in the two semesters. Therefore, adding more activities to the spring semester, as the students requested, is unlikely to address their dissatisfaction. However, the two semesters differed significantly in type of activity, given that fall incorporated the service-learning component. The service-learning survey results to question 4 (Table 1) indicate that while students were satisfied with the service-learning activities, they acknowledged that these might not speak to everyone. Indeed, not having a liking for the course material or not enjoying the learning environment would be off-putting to some students (Dunwoody

& Frank, 1995; Xu & Webber, 2018). Perhaps the spring students enjoyed the material and wanted to spend more time outside and at the farm, as the course had already attracted a majority that wanted hands-on experiences.

It is beyond the scope of this investigation to determine whether or not the service-learning component was directly responsible for greater student success during the fall semester as compared with the spring semester. All the students who received an F grade had stopped coming to class during the semester and failed to withdraw before the deadline. Issues regarding student retention can be complex and highly individual, influenced by a multitude of factors such as differences in demographic backgrounds and financial pressure (Xu & Webber, 2018). The course structure and curriculum is specifically designed to support the retention of first-year students as part of the student-success initiative, with small class sizes and more individualized student-faculty and peer-to-peer interactions. A 13% failure rate and 17% DFW rate in the spring semester is notable and disappointing, while the 4% failure rate and 8% DFW rate in the fall semester marks important improvement. Causes for the higher DFW rate in the spring are likely multifaceted (Dunwoody & Frank, 1995) and warrant further study.

## **Conclusions**

The building of the physical infrastructure of the CSUDH Urban Farm was a major step in the institutionalization of the garden-based service-learning program. In both spring and fall semesters, students were provided with a high-impact educational experience. However, in contrast to participatory experiential learning students, service-learning students reported greater satisfaction with the course and its activities, had a 3% higher GPA, and a 9% lower failure and DFW rate. Service-learning students expressed a connection with campus community and even a sense of feeling cared for. Students exhibited critical awareness of food justice issues and the ability to work toward community-based solutions and grow their critical consciousness. The garden-based service-learning component led to a significant improvement in course outcomes.

Some changes in the course going forward would likely improve outcomes further. An explicit description of the nature of the hands-on service work for the experiential learning version of the course in the university catalog or at the beginning of the semester would work to ensure the proper level of student commitment. A more explicit discussion of community would emphasize student belonging and encourage deeper involvement. A structured opportunity for reflection on the relationship between the ability to grow food and the redistribution of power will be added to the curriculum.

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