

Revisiting the KIT Community Garden Project

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The KIT Community Garden project is an honors project at Kanazawa Institute of Technology that began in 2016. The project aims to use gardening as a springboard for its members to improve their English language skills, gain gardening knowledge, increase their environmental awareness, and establish a deeper connection to the community. This paper will discuss the current status of the project, including the state of the garden, how the design principles that underpin the garden have manifested themselves, and what changes have been made recently in an effort to improve the project. Feedback from current project members will also be summarized, along with what outstanding challenges need to be overcome.

Keywords: school garden, forest garden, language education

1. Introduction

This paper will provide an update on the current status of the KIT Community Garden honors project at Kanazawa Institute of Technology (KIT). The project began in September 2016 and was previously reported on by Bean and Wood in 2019.¹⁾ The author will review the project's objectives, explain the design theory of the garden, and detail specific changes made to the project post-pandemic in an effort to increase the involvement of project members. Finally, the results of a questionnaire completed by current project members will be discussed.

1.1 Objectives

The KIT Community Garden has five primary objectives. The first is to help project members improve their English speaking, reading, writing, and listening skills. This objective has previously been met through a variety of language activities, including English garden tours, recording and listening to an English podcast about the garden, writing a blog about the garden, reading English articles about gardening concepts and completing comprehension worksheets, conducting presentations in English that reported on various aspects of the garden, and holding an English cooking class.

The second objective is to teach project members basic garden skills. This objective is primarily fulfilled by periodic gardening sessions during which project members plant seasonal vegetables and perform garden maintenance activities. During these sessions, the author teaches project members proper planting and maintenance techniques, how to identify plants, and explains the garden design principles that underpin the garden. The majority of this communications occurs in English.

The next objective is to provide project members with knowledge about environmentalism and sustainability. To meet this objective, project members are taught and practice sustainable

gardening methods such as composting and improving soil health. However, fully achieving this object is an area that needs to be improved.

The fourth objective is to help project members reconnect with their own culture through gardening. The idea behind this objective is the notion that Japan has a long history of small-scale farming that works in tandem with the natural environment. This objective envisions the concept of the *satoyama*, described as “...a landscape that lies between the opposites of the natural and human worlds. It is an intermediate zone between, for example, primeval forest and the bustling cityscape, containing both natural and human elements. Paddy fields where rice is grown for people’s meals are a human environment, but when filled with water in spring, they also take on aspects of the natural world, as a place where dragonfly naiads grow into adults. Forests that have provided firewood to use as fuel are homes to countless insects, while meadows with grass that is cut to feed cattle also blossom with colorful, seasonal flowers.”²⁾ As will be discussed shortly, not only does embracing the concept of the *satoyama* help meet this specific project objective, but it also is closely related to the principles on which the garden itself is designed. Again, this is another objective that needs to be focused on more in the future.

The final objective is to establish a connection to the local community. Even before the coronavirus pandemic, the project fell short of achieving this goal. During the pandemic, it was impossible to engage with the wider Nonoichi community due to measures taken to reduce the spread of the virus. However, now that the pandemic seems to be abating and most normal project activities have resumed, finding ways to fulfill this objective will be a primary focus. Ideas include increasing the project’s social media presence, inviting local farmers to talk to project members, and connecting with other similar projects around Japan and even overseas.

1.2 KIT Community Garden design principles

The KIT Community Garden is not merely a vegetable garden, although project members do grow a multitude of annual summer and winter crops. Rather, the majority of the garden is designed to be a forest garden. Forest gardens encompass a range of design concepts and focus on growing primarily perennial plants. The most noticeable feature of a forest garden is that is comprised of up to seven layers of vegetation: tall trees, low trees, shrubs, herbs, ground covers, vines, and roots.³⁾ The KIT Community Garden is home to plants that include all seven of these layers.

Moreover, the plants are arranged in patterns that encourage the establishment of ecosystems which help the garden thrive on its own. Jacke explains that there are seven ecosystem dynamics that forest gardens aim to mimic: “The most central of these, overyielding polycultures, results at least partly from the interaction between the other six: self-renewing fertility; sustainable water demand, minimal herbivory (that is, minimal varmints, pests, and diseases); minimal competition (from “weeds” between crops); directed successions; and healthy plants.”⁴⁾ As the number of perennial plants has gradually increase in the garden, they have been planted with these ecosystem dynamics in mind.

Another concept that the project embraces is permaculture, which is defined as “...an approach to land management and settlement design that adopts arrangements observed in flourishing natural ecosystems. It includes a set of design principles derived using whole-systems thinking. It applies

these principles in fields such as regenerative agriculture, town planning, rewilding, and community resilience.”⁵⁾ The ideas embodied by permaculture go hand in hand with those of forest gardening, and they are both tied to the concept of the *satoyama* discussed earlier. In the KIT Community Garden, permaculture practices include composting, soil improvement, minimal use of artificial fertilizer (with the goal of eliminating its use altogether), and planting vegetation that attracts beneficial insects.

By pursuing the concepts of forest gardening and permaculture, the result is that in just a short time, as Figures 1 and 2 show, the garden has blossomed from a relatively sparse vegetable garden into a lush and productive garden that provides a variety of perennial fruit and vegetables in addition to seasonal vegetables.



Fig.1 July 2017



Fig.2 July 2022

1.3 Current membership

Since April 2022, the number of project members has increased dramatically from five members to fifteen. They consist of six freshmen, six sophomores, two juniors, and one senior. In terms of English ability, three members self-assessed themselves as beginner, six as low-intermediate, and five as intermediate (one project member did not provide this information). Regardless of perceived or actual English level, all members are motivated to use English and improve their skills.

One interesting change in the makeup of project membership is that, despite the increase in the total number of members, the number of female participants has decreased substantially. Whereas a majority of previous members were female, there are currently only two female members. Recruiting a higher number of female participants is something to focus on in the future.

2. The pedagogical value of school gardens

Although there is scant research regarding the effectiveness of school gardens as a context for language learning, especially at the university level, their value as a learning tool has been widely recognized. According to Skanavis and Manolas, “School gardens are not a new idea. In all levels of education, gardens have offered students places of experiencing aesthetic beauty, of developing feelings of attachment with the natural world, opportunities for investigating a variety of life sciences and learning outdoors.”⁶⁾

In terms of academics, gardening can be a useful medium for teaching science concepts. Acharya

notes that “The knowledge of school gardening activities help students to understand the science concepts better in the classrooms. It is [*sic*] very interesting fact that school gardening activities help to increase the academic performance of the students.”⁷⁾ Skelly and Bradley echo this sentiment, citing that gardens can be used to assist the teaching of science and adding that “...students participating in school gardens had positive attitudes toward science.”⁸⁾ This correlation between gardening and having a positive effect on student attitudes toward science could be especially valuable at KIT.

Aside from possible academic benefits, gardening has been shown to foster a host of other positive behaviors and attitudes on students. Skanavis and Manolas again posit that growing their own food helps students develop healthy eating habits, increase their knowledge about nutrition, take part in decisions that affect their quality of life, and deal with losses and failures.⁶⁾

Ruiz-Gallardo, Verde, and Valdes, studying at-risk youth who engaged in gardening, found that students’ attitudes toward school improved, they gained a sense of responsibility, self-esteem, and self-confidence. Furthermore, the hands-on experience of gardening allowed students to observe processes over time, which is another important skill in becoming scientifically literate.⁹⁾

Finally, in their study in Sweden that introduced children to a forest garden, Hammarsten, Askerlund, Almers, Avery, and Samuelsson recognized an abundance of themes that the children identified through their experience. These themes included appreciation of place, physical work, relations to animals and plants, aesthetic and edible aspects, food and friends, practical competence, learning to co-exist and care, biological knowledge, and ecological understanding.¹⁰⁾

It is clear that school gardens present an instrument that teachers can use to provide their students an array of valuable learning opportunities, whether they are rooted in academics or in skills that will help them live more meaningful, healthy lives. As mentioned previously, using school gardens as a vehicle for language learning has not been widely studied thus far. The KIT Community Garden project endeavors to help fill this void in academic literature and add language learning to the long list of skills that can be enhanced through school gardens.

3. Changes to the KIT Community Garden project

While the coronavirus pandemic all but halted project activities for nearly two years, it offered the opportunity to reflect on the project’s shortcomings and find ways to hopefully overcome them. The biggest problem, from the author’s standpoint, is that member participation in various activities was sporadic, with members frequently failing to join garden tours or weeding sessions, fulfill their weekly obligations to harvest vegetables, and or pictures and commentary on social media. This project is a voluntary effort on the part of members, so it is impossible to force them to join project activities. With that understanding, and with the goal of encouraging as much engagement with the project as possible, several changes were implemented in April 2022.

First, members were given a concrete schedule for the entire semester. Garden activities (planting, garden tours, garden maintenance) would occur every two weeks, on the same day of the week and at the same time. In the past, the schedule was not set ahead of time, so members tended to schedule other activities or part-time jobs that prevented them from being able to join. Establishing this

schedule has resulted in a higher rate of attendance among project members.

Second, activities were divided into “required” and “optional.” Required activities included members individually going to the garden one day every week to do four tasks: water the garden if necessary, harvest any vegetables that are ripe, record harvest data on the project’s Line group, and record a narrated video in English to post on the project’s Twitter page (@kit_garden).¹¹⁾

Third, members had to choose one optional activity that they would complete in smaller groups. Choices for this activity included making a poster, writing a blog once a week, creating a newsletter, and making a longer video about the garden. (Twitter limits videos to 140 seconds.) In the end, five members chose to make a poster about the insects that live in the garden, four members chose to make a poster that summarizes harvest data for summer crops, four members chose to write a newsletter (see Appendix), and two members chose to make a longer video introducing the health benefits of some of the vegetables that are grown in the garden.

To complete these projects, the smaller groups scheduled meetings with the teacher to create the production schedule, brainstorm ideas, and check their English. These meetings were valuable because they gave members a chance to spend more time engaging in English with the teacher, to practice speaking and writing English, to learn more about gardening, and to hopefully gain more of a sense of fulfillment from the project.

3.1 Student feedback

To gauge the extent to which project members are satisfied with this project, they were asked to complete a questionnaire, and fourteen of the fifteen members did so.

Members were asked which of the main required activities—garden tours, working in the garden (planting vegetables, weeding, etc.), and Twitter—is the most enjoyable. Ten members chose working in the garden, four chose garden tours, and zero chose Twitter. This result was encouraging. It is a positive sign that a large majority enjoy working in the garden, considering that this is usually the most unpleasant aspect of the project. It involves physical exertion, often in the hot sun, sweating, getting dirty, and being bitten by insects. However, it is pleasing to know that members see the joy in this activity—being immersed in the sounds, smells, and textures of the garden, feeling it with their hands, and experiencing it up close. Comments on why they enjoy this activity included “Because I like agriculture,” “Weeding and communicating with each other in English,” “I can get knowledge of plants,” “I could learn new words,” “It’s interesting to watch plants grow,” and “Because I can feel happy when I am weeding and planting vegetables.”

When asked which of the three activities is the least enjoyable, 11 chose Twitter, two chose working in the garden, and one chose garden tours. As for why they dislike Twitter, three members cited their poor English ability as the main reason, while two said that using Twitter itself is difficult. Other comments included “It’s difficult to take a video every week,” “Not everyone does this activity,” “It’s bothersome,” and “Because I rarely use Twitter.”

This result was discouraging for several reasons. Twitter is the project’s main social media presence and a primary way that we can connect with the community on both local and wider scales. It is also one of the main channels for members to independently use English each week. It will be important to find a social media outlet that students are more comfortable using, and it may be

necessary to reconsider what this facet of the project is requiring linguistically from the members. Currently, they are provided a script that can be used as a template for each video they make. It maybe be necessary to simplify the script or provide members with a chance to practice more before they record their weekly video.

Members were also asked what they thought about the amount of garden activities and the amount of English activities. Ensuring that members are satisfied with the amount of effort this project requires of them, and in turn what they are getting out of the project, is of paramount importance. For garden activities, 13 members stated that the amount is good, while one member wants to do more garden activities. As for the amount of English activities, nine feel the amount is good and five want to do more. Although a majority of members are satisfied with the amount of English activities, it is worth reaching out to those who want to do more and offer them the opportunity to do so.

Members were asked for their ideas about how this project can be improved, and they offered some interesting comments. One member said “Put signs in front of plants so that we can understand what plants are.” This will be a good project to pursue during the winter, when there is obviously less hands-on work to be done in the garden. Two students expressed a desire to make the garden larger, which is difficult considering space is limited, but this will offer a chance to reinforce the permaculture/forest garden concept of polyculture, which encourages companion planting in an effort to most effectively use space. Another member said “We should make opportunities to communicate with project members because we don’t know each other well.” Considering the project members are varied in both academic year and major, this is a prescient comment. The only time the group meets as a whole is during the bi-weekly garden meetings, and there are usually a few members absent. Other than that, the smaller groups meet with the teacher more regularly to work on their respective projects. Since the idea of “community” is such an integral part of this project, finding a way for project members to stay in more regular communication and get to know each other better is a desirable goal. One way this could be achieved is by making the Line group—the primary mode of communication among project members—more active and engaging. Establishing a running conversation, offering daily garden information that members are encouraged to comment on, or even having individual members introduce themselves more thoroughly, are all possibilities. In the end, however, it comes down to how involved individual members want to be in such activities. It will be a trial and error process to find something that appeals to project members.

Overall, the questionnaire shows that the project members are largely satisfied with the way the project is being run at present. That said, their comments did elucidate some areas that are in need of improvement, the use of Twitter being chief among them.

4. Conclusion

After two years of the coronavirus pandemic, the KIT Community Garden project has been rejuvenated by an influx of new and motivated members, the ability to once again resume most of its in-person activities, and a more mature and productive selection of perennial plants.

To be sure, there are aspects of the project that need to be improved. Several of the project's objectives are currently not being met. To do so, the project must refocus its emphasis on sustainability and environmentalism, do more to draw the connection between the KIT Community Garden and Japanese traditional gardening practices, and most importantly, forge a deeper relationship with the community of gardeners in Japan and around the world.

Relatedly, members don't entirely understand the design principles at work in the garden when it comes to forest gardening and permaculture. Since these concepts are so crucial to what the garden is, more effort needs to be put into integrating these elements into project activities.

Another challenge will be to establish a menu of optional activities that can be sustained indefinitely. For example, if members are constantly making posters, there will be too many to display. Activities also must be viable during the winter months, when the garden is mostly dormant. Perhaps this would be a good time to focus more on the design principle aspect of the garden, and members can put their efforts toward design improvements to be undertaken in the spring.

Much like the plants in the KIT Community Garden, this project continues to grow in new directions each year. And while not all efforts are successful, be they zucchini plants that succumb to mildew or Twitter activities that are roundly rejected by project members, the author will continue nurturing this project as if it is an apple tree seedling that will one day mature and be laden with fruit.

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Appendix 1 – A page from Issue 1 of the KIT Community Garden newsletter.

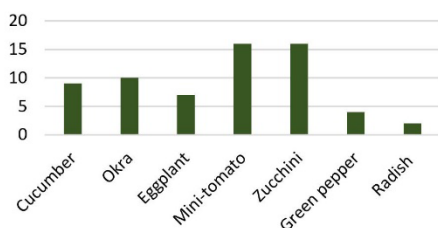


The Veggie Patch

The Newsletter of the KIT Community Garden
Issue 1 🌸 July 2022

Harvest Report – June

Vegetables



Harvest Notes

Most Harvested – Zucchini & mini-tomato

Least Harvested – Radish

Observations –
There is no luster to the eggplant.
The weather was mostly hot & sunny.
The garden seems too hot.

From Our Kitchen

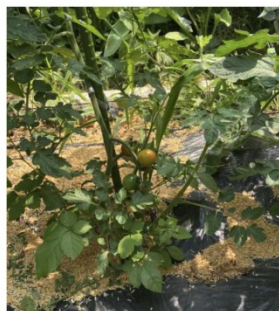
This month, we used zucchini from our garden to make bruschetta.



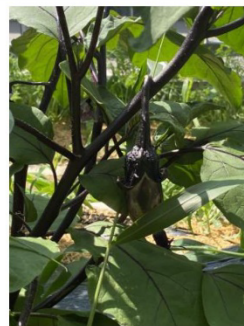
First, slice the zucchini. Then, cook both sides of the zucchini in a frying pan with olive oil. Next, cut the bread into slices and apply butter. Finally, place dry-cured ham, cream cheese, and baked zucchini on the bread. Scan the QR code to see the recipe.



Garden Pictures



This is a picture of ripening tomatoes.



This is a picture of an eggplant.