

Growing Community, Naturally.

Healing Troubled Youth Through Gardening



Reflection

- Please take a moment, close your eyes and think about the physical space of the schools you attended as a child.
- How did the green space (or lack of) effect your interactions with the school, your peers and community?

My Practice

- Licensed Mental Health Counselor
- Mental Health Specialist at Renton Academy
- Passion for gardening
- Integrated gardening into each classroom weekly: teaching nutrition, life skills, agricultural practices, biological science, and social skills.



Topics to be addressed

- Population targeted
- Research overview
- Leaders in the field
- Connections to Re-EDucation
- Case studies from Renton Academy
- Student and family perceptions
- Toolkit – how to integrate gardening into your practice



Who is the targeted population?

- Students with emotional and behavioral disorders (EBD).
- Generally divided into two subcategories: those with externalizing behavior and those with internalizing behavior.

Who is the targeted population?

- Externalizing behavior includes aggression, disruption, and other forms of acting out; internalizing behavior includes such problems as depression, anxiety, and social withdrawal, in which the primary difficulty is private or internal.

Who is the targeted population?

- Many of the students at Renton Academy have mental health diagnoses as well.
 - ADD/ADHD
 - Autism Spectrum Disorder (ASD)
 - Depression
 - Anxiety

<http://www.education.com/reference/article/emotionalbehavioral-disorders/>

Who is the targeted population?

- Garden therapy is appropriate for students who internalize and externalize their feelings.
- It can be a time to build relationships for students who withdraw, working in pairs on a quiet task.
- For students with more exuberant energy, handing them a shovel and a wheelbarrow can give them a chance to channel their liveliness in a positive way.

Who is the targeted population?

- Students with ASD can have specialized sensory needs and sensitivities.
 - Sounds
 - Smell
 - Touch

Leekam et al, 2007

Definitions

- The process of teaching/leading therapeutic gardening groups with students goes by many names, each specializing in a component of the larger idea. These are a few frequently referenced in current research:

- Horticultural therapy
- Garden-based learning



Horticultural Therapy

- “A therapeutic garden is a plant-dominated environment purposefully designed to facilitate interaction with the healing elements of nature.”

<http://ahta.org/horticultural-therapy>



Horticultural Therapy

“Horticultural therapy (HT) is a time-proven practice. The therapeutic benefits of garden environments have been documented since ancient times. In the 19th century, Dr. Benjamin Rush, a signer of the Declaration of Independence and recognized as the “Father of American Psychiatry,” was first to document the positive effect working in the garden had on individuals with mental illness.

In the 1940s and 1950s, rehabilitative care of hospitalized war veterans significantly expanded acceptance of the practice. No longer limited to treating mental illness, HT practice gained in credibility and was embraced for a much wider range of diagnoses and therapeutic options. Today, HT is accepted as a beneficial and effective therapeutic modality. It is widely used within a broad range of rehabilitative, vocational, and community settings.

HT techniques are employed to assist participants to learn new skills or regain those that are lost. It also helps improve memory, cognitive abilities, task initiation, language skills, and socialization.

<http://ahta.org/horticultural-therapy>

Garden-Based Learning

Cornell University's Garden-Based Learning program embodies the Re-ED philosophy in many ways. The goal of the program is to "support the growth of collaborative, committed, reflective, and caring young people."



Benefits of Garden-based learning

- Opportunity to work cooperatively with others, learning new skills, and new information.



- Skills are transferable to other settings and reinforce a sense of mastery and heightened self-esteem.



- Mirrors the path that children's development – (helpless to autonomy, as seed to plant).



- Engages non-traditional learners. Action-orientated activity useful for kids with extra energy positive channels, constructive, rather than destructive.



- Positive for kids who cannot verbal process feelings, therapy can continue at an experiential level



- Opportunities for kids who are guarded or distrustful to learn trust through experiences and increased competence in learning with the group.



- Students tend to learn more and better when they are actively involved in the learning process.

McCormick et al. (1989)



Make learning relevant

- Students frequently report that what they learn in school has little relevance to their lives outside the classroom or to their futures
(Nieto, 1994; Sleeter & Grant, 1991).
- This is particularly evident in school science, which typically reflects middle-class experiences and excludes the lives of students most on the margins of science.
(Atwater, 1996; Lee & Fradd, 1998)

Benefits for students with ASD

- Repetitive activities are utilized.
- Students move through the same steps over and over again to increase comfort level and experience success.
- Potting up transplants using different types of plants is a frequent activity.

<http://www.kidsgardening.org/article/autism-and-gardening>

Benefits for students with ASD

- Gardening allows for repetitive activities, yet still offers some challenge by providing constant change.
- You can establish a comforting routine (gather needed tools, check on the plants, pull a few weeds, water, etc.), but there will be subtle changes to engage the curiosity of the child with each visit such as ripening tomatoes, new insects to observe, flower buds opening, and leaves changing colors.

<http://www.kidsgardening.org/article/autism-and-gardening>

Benefits for students with ASD

- Gardens engage the senses without being over stimulating.
- Students can explore different colors, textures, smells, and sounds in a calming, natural setting.

<http://www.kidsgardening.org/article/autism-and-gardening>

On Expertise and engagement

“Being involved, part of the action, needed by others; these all enhance people's sense of competence and meaningfulness. Yet they are often undermined by decision-making processes that, though well intended, assume what is best for others. Mechanisms that foster involvement and participation can do a great deal to bring out the best in people and, at the same time, lead to solutions that are environmentally reasonable as well.”

Rachel Kaplan

Garden-Based Learning

- “Garden-based learning programs result in increased nutrition and environmental awareness, higher learning achievements, and increased life skills for our students.
- They are also an effective and engaging way to integrate curriculum and meet learning standards, giving young people the chance to develop a wide range of academic and social skills.”



Garden-Based Learning

- “Garden experiences foster ecological literacy and stewardship skills, enhancing an awareness of the link between plants in the landscape and our clothing, food, shelter, and well-being.
- They also provide children and youth with the time and space to explore the natural world—something that can occur rarely in today's era of indoor living.”



<http://blogs.cornell.edu/garden/grow-your-program/benefits-of-garden-based-learning/>

Garden-Based Learning

- Cornell University's Garden-Based Learning Model, positive youth development approach which were developed by Dr. Cathann Kress, former Assistant Director for Cornell Cooperative Extension and State Leader for 4-H Youth Development:



1. **Mastery**
2. **Belonging**
3. **Generosity**
4. **Power**

Planning for Positive Youth Development through Garden-Based Learning: Generosity, Belonging, Power, and Mastery

Use this tool to dig deeper into your program activities and support the growth of collaborative, committed, reflective, and caring young people. Consider an activity: planning a garden, planning a new garden, or hosting a harvest festival. How might you build in opportunities for generosity, belonging, power, and mastery?

GENEROSITY = "I can make a difference."

- Strategies:**
- Show how garden skills can be used in positive ways.
 - Respect and encourage friendships.
 - Encourage compassion for others, and concern for the earth.
 - Reinforce gestures of caring, and ask young people to take responsibility for helping others.
 - Share the harvest—consider all the ways to extend what you are learning and giving to improve the lives of others.
 - Establish a mentoring component to link older students with younger students.



BELONGING = "I belong here."

- Strategies:**
- Encourage students work together to complete tasks.
 - Spend time gardening with students, and take your time!
 - Think of ways to involve families and community.
 - Work in small groups to encourage close relationships.
 - Promote collaborative and cooperative learning.
 - Show respect for the value of diverse cultures.
 - Provide multiple opportunities for youth to develop relationships with adults.
 - Be sure to have time for fun!



POWER = "I matter."

- Strategies:**
- Ask yourself: "Is there something I am doing that a young person could be learning by doing?"
 - Include children in discussions and encourage their input.
 - Ask children to do something instead of telling them to do it.
 - Give children responsibility with a minimum of reminders.
 - Empower children who recognize the limits of their independence and seek counsel.
 - Maintain a close link between independence and responsibility. Share decision-making with young people by involving them in running the garden program.



MASTERY = "I can."

- Strategies:**
- Include hands-on activities, projects or exhibits.
 - Think of ways to show how gardening relates to workplace-related challenges and activities that apply to daily life.
 - Include different ways to investigate and discover.
 - Think of multiple outcomes.
 - Focus on the long-term goals of learning.
 - Provide prompt feedback.
 - Model and teach that failure and frustration are learning experiences.



Adapted from "Youth Development Learning Design Worksheet" by Cathann Kress, Ph.D. Cornell Cooperative Extension, with Youth Development



What are the benefits in gardening with troubled youth?



Connections to Re-EDucation

- Circle of Courage
- Authentic involvement using Hart's Ladder



Circle of Courage



- Belonging:
To family, groups, and community
- Mastery:
Of a variety of skills and learning
- Independence:
From the need for external controls
- Generosity:
In sharing skills and helping others

Re-ED connections to gardening

- Joy should be experienced in every day – the garden is a joyful place for kids and adults alike.



Re-ED connections to gardening

- Community is important – the entire school is involved in the garden.



Re-ED connections to gardening

- Time is an ally – gardening is not an instant product, it is a process that takes time. Sometimes years.



Re-ED connections to gardening

- Trust is essential – trusting each other to respect the garden, trusting adults to maintain over the summer.



Roger Hart's Ladder of Young People's Participation

Rung 8: Young people & adults share decision-making

Rung 7: Young people lead & initiate action

Rung 6: Adult-initiated, shared decisions with young people

Rung 5: Young people consulted and informed

Rung 4: Young people assigned and informed

Rung 3: Young people tokenized*

Rung 2: Young people are decoration*

Rung 1: Young people are manipulated*

Note: Hart explains that the last three rungs are non-participation

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On working with at-risk youth

- “Students should never be allowed to disappear into anonymity. The school environment should be a place in which students are esteemed for their unique abilities and strengths .”

Hamby, 1989

On working with at-risk youth

Research Supporting Garden Based Learning



- Increase in
 - Self-understanding
 - Interpersonal relationship skills
 - Ability to work in groups



- When third to fifth grade students who participated in a one-year gardening program filled out a survey of life skills, they showed a significant increase in self-understanding, interpersonal relationship skills, and ability to work in groups compared to nonparticipating students.

Robinson & Zajicek, 2005



- After gardening, kids possess an appreciation for working with neighborhood adults, and have an increased interest for improvement of neighborhood appearance.

Pothukuchi, 2004



- Children with learning disabilities who participated in gardening activities had:
- enhanced nonverbal communication skills
- developed awareness of the advantages of order
- learned how to participate in a cooperative effort
- formed relationships with adults.

Sarver (1985)



- Outcomes go beyond an understanding of good nutrition and the origin of fresh food, to include enhancing the quality and meaningfulness of learning.

Canaris, Irene, 1995



- Gardeners directly experience nearby nature by 'getting their hands dirty' and growing food. They enjoy the way vegetables taste and form emotional connections with the garden.



- The physical and social qualities of garden participation awaken the senses and stimulate a range of responses that influence interpersonal processes (learning, affirming, expressive experiences) and social relationships that are supportive of positive health-related behaviors and overall health.



James H., et al. (2011)

- Research indicates that gardening promotes relief from acute stress.
- Gardening and reading each led to decreases in cortisol during the recovery period, but decreases were significantly stronger in the gardening group.
- Positive mood was fully restored after gardening, but further deteriorated during reading.



Van Den Berg, Agnes and Custers, Mariëtte H.G., 2011

- Benefits of gardening include physical , emotional, social, and spiritual well-being.
- Highlighted a key role of gardening as a coping strategy for living with stressful life experiences.

Unruh, A.M. 2004



- Participation with nature enhances mental health, reduces stress, and can produce physiological benefits such as lower blood pressure and reduced muscle tension.

Relf, D., 1988.



- Students who are actively engaged in garden projects tend to enjoy learning and show improved attitudes towards education.

Canaris, 1995; Dirks & Orvis, 2005



- Gardens offer a place to learn delayed gratification, independence, and motivation.

Alexander et al., 1995



Case studies



“Tyrell” and the basil plant

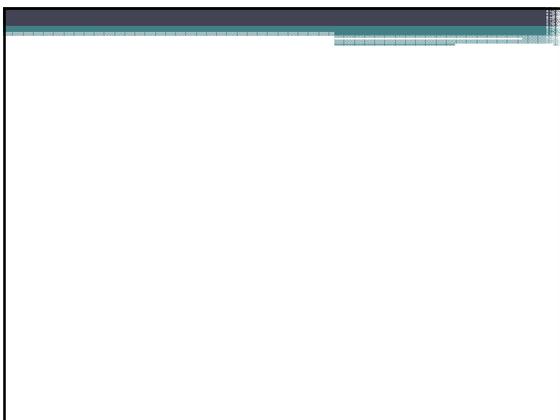


“DeShawn” and the zucchini



“Devon” and the compost





Student's Opinions



Student's Opinions



Student's Opinions



Family Feedback

- “The community garden at Renton Academy is a great asset for the students. There are numerous benefits of planting and maintaining a garden.
- The basic idea of planting a seed and watching it grow into food or something beautiful can be very exciting. The students can learn how important it is that a garden must be nurtured. That for something to grow it needs all of the elements; water, sun and soil.
- A garden also teaches the idea of the law of sowing and reaping. What you put into something is what you will get out of it. The correlation as it applies to life and even relationships can be seen.
- A garden is good for the environment. This can teach the kids to care about our earth and how important it is to treat it right.
- The harvest of the garden teaches giving out of the abundance that is produced. Teaching our kids to be givers is a benefit to everyone.”

Family Feedback

- “The community garden gives students an opportunity to work together in a specialized community. As well as observing how vegetables, flowers and other garden based activities grow.”
- “Great job! We loved the beets!”

How to Integrate Garden-Based Learning into your Practice



Start Small

- Keep it small and manageable, gardening can be very time consuming.
- Our garden started with 1 pre-existing raised bed.



May, 2009

Start Small

- One mistake many novice gardeners make is to overplant, and then realize the maintenance requirements.
- Poll the students and together choose a few plants that are low maintenance and high yield – tomatoes, potatoes, lettuce, or snap peas, for example.



March 2009

Have the right tools

- One major barrier to student involvement can be equipment.
- Often students in lower SES schools have minimal clothing and shoes, and are understandably hesitant to do anything that might get them dirty –especially in the rainy Northwest
- Student participation skyrocketed after the purchase of gloves, rubber boots and rain parkas for each gardener.



Garden Safety

- Don't assume basic knowledge of how to use tools.
- Demonstrate how to properly use every tool, naming it and how to use it.
- At RA, we have a 'waist' rule, meaning that the business end of the tool always remains below the waist of the user – no accidental shovels to the head so far!



Garden Safety

- Students with EBD are often surprised that adults are willing to trust them or their peers with sharp or potentially dangerous tools.
- "Ms. Mollie, don't you know that I get mad sometimes?"



Garden Safety

- This is an excellent opportunity to teach trust experientially.
- "I know that you get mad. I also know you have good self control. I trust that you can use the tools safely."
- Model appropriate use of tools and monitor closely students who appear frustrated.



Garden Safety

- Set clear boundaries.
- We have a 1 chance rule, due to the potential for real harm with a heavy metal shovel.
- Before leaving the classroom to go outside, have students generate expectations (with assistance).

Examples:

- Share tools
- Take turns
- Safe with body and objects
- Use kind words
- Take a PTO on the picnic table
- If you're frustrated or bored



Impulsive Behaviors in the Garden

- Anyone who works with students struggling with managing their behaviors knows that they sometimes make choices that they regret.
- Even students who love the garden might have times when their anger is the strongest force.
- The garden can be a target for destruction when students are feeling out of control.
- Realizing this and preparing students (and yourself) for the aftermath is important.

Impulsive Behaviors in the Garden

- I use the analogy of natural disasters. Earthquakes, tornados and floods happen all the time.
- Plants as a example of natural resiliency.
- Do plants just give up and quit? Nope. They immediate start growing again, sending down roots and sending up leaves.
- Model what you want students to demonstrate.

Impulsive Behaviors in the Garden

- Dealing with the aftermath – an excellent opportunity to teach about how to make amends for mistakes.
- Punishment and shame is counter-productive.
- Support students in making it right with the community in a way that is meaningful and therapeutic.

Situation

- Angry student 'Jose' is near the greenhouse.
- Escalates to the point of fury, begins to tear it apart with his bare hands, threatening adults.
- Police are called, situation is tragic for all involved.

How do you both support students in grieving the destruction, and to process with Jose how his actions affected his community?

- Before talking with students, adults need to process their feelings – often adults are as attached as the students to the garden and need to express their emotions to be able to lead a discussion in a productive manner.

- Conduct a group meeting with students, explain calmly, in a non-blaming but factual manner what happened. Keep the non-essential details to minimum, be very aware of the language you use.
 - “A student got upset today and destroyed the greenhouse.”
- As opposed to:
- “A student got upset today in the garden. People make mistakes, and we always fix our mistakes at RA. Adults will work with him to make it right.”

- Give students a chance to process their reactions.
- Prepare how you will support them through their emotions.
- Expect anger, some may have potential thoughts of retribution.
- Some may feel extremely sad and depressed, and reminded of other trauma in their lives.

- Students will look to the mediator as a model of how to react. Make sure you are aware of your own emotions, facial expressions, and body language.
- Students with EBD are masters of reading people as a self-protecting strategy.
- Be honest, but endeavor to use as calm an affect as possible.

- Jose was able to fix the greenhouse, and being a hands-on learner, repairing it himself was a good solution.
- He was able to process and reflect on how his choice affected his community.
- “Man, I sure messed this up. That sure was a stupid thing to do. I am glad I got a chance to fix it.”
- Younger students watched him rebuild, and thanked him for repairing his mistakes – a learning opportunity for everyone.



Planning for Success

- Over-plan - prepare for a diversity of interests, knowledge and abilities..
- Some students prefer quiet, individual tasks and some prefer group work using their whole bodies.
- New activities can be intimidating. Explain the tasks fully in the classroom, with all tools, plants, seeds, etc used so students feel confident when in the garden.



Process over Product

- Some adult gardeners have the passion and enthusiasm about gardening, but get caught up when students put shovel to soil, and accidentally tear out a plant.
- Gardening is inherently experiential, and often the best lessons come from mistakes.
- If you are an avid gardener – think – who taught you? How did you learn the difference between a weed and a plant?

Process over Product

- Kids' gardening priorities are likely to be different than adults'.
- Leave space for digging in the dirt and searching for worms.
- One of the most popular places in the garden is the worm bin. Students love to pick up the insects and study them. Weeding might not get done, but learning is happening all the same.



Process over Product

- Plan for some plants to be destroyed, whether by accident or on purpose.
- Students have torn out plants, and the other students look to me in indignation, expecting the perpetrator to be severely punished.
- My typical response is "Well good thing we planted 200 tomatoes, right? Let's go get a replacement."
- Avoid the conflict cycle if you can, remind yourself and the students that plants are resilient, and so are we. It's not the end of the world.

Personal Time Outs

- Over the years, the garden has become a popular place for students to head to when they are feeling frustrated.
- One student, irate at her classmates, said to me "The garden is the only place I feel peace!"
- Students who get 'stuck' often are encouraged to visit the garden to move past unhelpful fixations.

Reframing the idea of school

- Often students with EBD have a tough history with school.
- Their behaviors may have resulted in disciplinary actions, as well as preventing them from developing positive peer friendships.
- Co-occurring learning disabilities can impact a student's ability to feel academically successful, as well.
- As a result, school can seem a hostile, difficult place.

Reframing the idea of school

- By the time a student is referred to Renton Academy, even a young person may have experienced a great deal of failure in school, and may associate school as an uncaring place, where they are constantly in trouble.
- It is the educators' task to reframe what school is for these students, by giving them reason to believe otherwise.



Reframing the idea of School

- Introducing the garden to new students and encouraging them to get involved right away can help challenge their preconceived ideas of what constitutes school.



- Teaching students that learning isn't busywork with a pencil and paper, but can happen while you are arm-deep in the dirt is the goal.



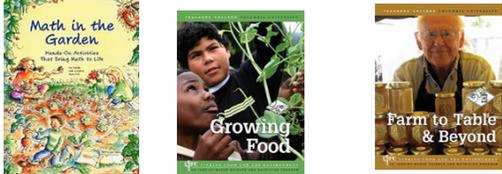
- If students with EBD learn nothing but how to work collaboratively with their peers on a community project, I feel that is success.



Curriculum

- Cornell University's Garden-Based Learning Website:
<http://www.hort.cornell.edu>
- Kid's Gardening – child-focused gardening website from the National Gardening Association
<http://www.kidsgardening.org/school-gardening>
- Life Lab
<http://www.lifelab.org/store/curriculum/>

Curriculum



Math in the Garden
How the Numbers
Just Grow With It

Growing Food

Farm to Table
& Beyond

Curriculum



Nourishing Choices

DOWN DIRTY!
43 Fun & Funky
First-Time
Projects &
Activities
For Kids' Own
Gardening

Ellen Zachos

the GROWING Classroom
Garden-Based Science
Roberta Jaffe • Gary Appel

Literature in the Garden

NEW!
WORMS
Eat My Garbage
By Mary Appelhof

Curriculum



Tops & Bottoms
JANEY STEVENS

Plantzilla
JERDINE HOLEN
Illustrated by DAVID CATROW



Best Practices in Starting and Sustaining a School Garden

- http://www.ksre.k-state.edu/2012webinars/archive-stream.html?id=mp4:test/USDA_Best%20Practices_Dec13_2012.mp4#showvideo
- Free online webinar school gardening training sponsored by the USDA and The People's Garden

Grants

- Nearly all of the Renton Academy Community Garden and Outdoor Learning Center has been grant-funded.
- Budgets are tight in school districts, plan accordingly. Consider the future of the garden, and the yearly monetary requirements for upkeep.



Grants

- Grant-writing can feel like a full-time job in itself, but there are ways to maximize your efforts.
 - Create a document that explains your garden in a few, succinct paragraphs. Resist the urge to over-explain.
 - Convey excitement for the project and demonstrate strong leadership, collaboration and sustainability of your program.
(Eames-Sheavely, Sowing the Seeds of Success)

Grant Writing

- Create a gardening grant folder
 - Enthusiastic endorsement letter from principal, director or coordinator stating that the project is well-organized and has her/his full support.
 - 1 page project description
 - List of specific needs
 - Garden plan
 - Quotes from participants
 - Pictures (send home guardian consent form first)

Grants

- Examples of grants awarded to Renton Academy's school garden:
 - National Gardening Association
 - Yearly seed donation from Territorial Seeds
 - McLendons's Hardware

A full gardening grant resource sheet will be available at the end of the presentation.

Community Involvement

- The school garden has improved community relationships.
- Many people who live near the school visit the garden during the summer and comment on how beautiful it is.



Community Involvement

- Without even seeking volunteers, several community members have asked how they can help.
- They are assisting with weeding and watering the garden during the summer months, and ensuring that it isn't vandalized.



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