12-2020

The Healing Garden

Riley Norman
University of Arkansas, Fayetteville

The Healing Garden

Riley L. Norman

University of Arkansas

December 2020

Table of Contents

Abstract

Beginning in the 14th century, gardens have been used to heal patients in hospitals around the world. In post-World War I America, they were reestablished as a part of hospitals, but not necessarily seen as a healing mechanism. The goal for this project was to create a garden that could potentially have similar beneficial effects on the children and staff at the Jean Tyson Child Development Center in Fayetteville, Arkansas. Healing gardens and nature as a whole can help with physical healing, as well as emotional, spiritual, and mental health. This creative project is a demonstration garden that has been installed and renovated in the year 2020. The goal for the project is for others to come and observe the garden, including hospital staff, school staff, childcare workers, and any other facilities or organizations working with ill, or well children. We want the garden to reinforce the ideas to other community entities about the benefits that can come from being in our natural healing environment. The hope is all of these facilities will be in the position to learn from our extensive research and specific construction of our garden at the Jean Tyson Child Development Study Center (JTCDSC).

Introduction

Gardening and plants have been used as a method or resource for medicine, healing, and visual appeal for centuries. Healing is unique for everyone, but the primary goal of a healing garden is to "make people feel safe, less stressed, more comfortable, and even invigorated" (Gharipour, 2005, p. 497). Such gardens become especially important when young children are involved. Being exposed to nature has shown to improve many aspects of children's health. Nature can affect children mentally, physically and socially (Tillmann, 2018) as well as nurture their development in a cognitive and emotional way (Dyment, 2007). However, there are several reasons why children may lack engagement with nature; three of those are "new technologies, safety concerns, and the reduction in quality urban environments" (Chiumento, 2018, p. 2). For these reasons, nature seems to be losing its relevance.

There are many ways that healing can occur through gardens. The garden described in this paper will be organized in a way that reflects most present-day healing gardens. The space will also include common elements that can be found in healing gardens such as various types of flowers, soothing flowing water sculptures, greenery, some edible elements and benches and other shaded places to sit. Another important element that will go into the design of this garden is the input of children that attend preschool. The original plan was to ask the children at Jean Tyson ourselves, but due to COVID-19 restrictions we were unable to interact with the children. Instead, we supplemented with additional research for things children appreciate having in nature. This research gave us good insight on things children deem fitting for a garden.

By just scratching the surface of the healing and soothing effects gardens have on children, one can clearly see the importance of ensuring that children are surrounded by nature in day to day life, thus the importance of this project. The goal for this project is to reinforce the

idea that these gardens can have a multitude of beneficial effects, especially with our youth due the decline in connection with nature we are experiencing due to technology (Dopko et al., 2019). Building this garden will reinforce the benefits that can come from being in a natural environment. The hope is that the students at JTCDSC and facilities around Fayetteville will be in the position to learn from our extensive research and specific construction of the garden at the JTCDSC.

Literature Review

Nature has certain healing remedies even present-day medicine cannot compete with, and these include healing gardens. This literature review will discuss why nature is so important for children, and theories that can be used to support these ideas.

Ecological Systems Theory

Urie Bronfenbrenner published his Ecological Systems Theory in 1979 and explained in depth the different systems children grow, learn and develop in. He organized different types of interactions children experience by placing them in five different systems. These systems are the Microsystem, Mesosystem, Exosystem, Macrosystem and the Chronosystem, organized from closest to the child to furthest away. His theory emphasizes that all systems can impact children. The environment the child is in plays a huge role, bringing the debate of nature v nurture to light. Although the original model was designed to showcase the educational development of children, it can just as appropriately be applied to ecotherapy (also known as nature-guided therapy, Burls, 2008) and its journey to recover patients (Burls, 2008).

When applying this theory to nature, the most important levels are the *Microsystem*, which is where the therapy takes place (i.e., meeting with a therapist or being in nature,) and the *Macrosystem*, where the larger cultural context comes into play, like contemporary ecotherapy.

Different *Macrosystems*, as in urban green spaces, can promote healing by offering areas that allow for physical activity, relieve stress and also provide social interaction (Kabish, 2017). Healing through nature using the Ecological Systems Theory provides more insight into why access to nature for children is so beneficial. Surrounding children with nature in whatever way possible (including ill and well children) may help them not only develop better social skills, but also helps them psychologically (Kabish, 2017).

Social Skills

Nature benefits people of different ages, races and walks of life all differently and can be used to help individual clients with their own history and circumstances (Burls, 2008). Studies have found that nature benefits children through their socialization skills. For example, a forest kindergarten in the Czech Republic showed that when children are surrounded by nature and are able to explore it freely, they develop social skills with their peers and even show emotional coping skills (Hurly & Walker, 2019).

In another study done by Dowdell et al., 2011, it was shown that children's play and social interactions with their peers lasted longer when they were in natural environments. These environments encouraged children to get creative and challenge themselves differently than when in a standard classroom. An important addition to note is that teachers and educators must be supportive of the children interacting in this environment. When kids have open access to an outdoor space, they are able to use open-ended creativity and imagination to interact with their peers and to learn more about their own relationship with nature (Dowdell et al., 2011).

Social interactions can look different in different cultures and places but one thing that stays consistent is natures role in bringing people together. One study was done in Los Angeles about urban community gardens being built by marginalized Latina/o immigrants. These gardens

started off simply as a place to grow food, but they turned into more than just that. The gardens gave these families a community and people they could look to for help. The same study done by Sotelo (2017), followed families that lived in an immigrant community that grew different foods to make dishes from wherever they called home in Mesoamerica. They got creative and were able to make a close family like atmosphere by working together to grow things like corn, bananas and much more in inner city Los Angeles. At the end of each week they would cook their native dishes for each other (Sotelo, 2017). The families grew food together and on the weekends the children helped in the garden. At the garden the children were nurtured, protected and guided by the other mothers and their children. (Sotelo, 2017). Because of their dangerous location withing the city, the children were not allowed to go to the nearby park alone, however, the garden was within their complex. The children spent nights and weekends at the garden in constant motion, creating their own games and getting creative with what they had. The children had a place to learn about different people from Mexico and Central America, play with other children, get creative, play with bugs or even a place to escape if home life was not going well. This garden clearly played a large role in connecting families of this community and was much greater than just a food provider. This garden, in the middle of inner-city Los Angeles, brought men, women and children together, gave them community, a purpose, and something to enjoy.

Psychological Well-Being

Research indicates that today children are spending less time outdoors than previous generations, despite the benefits they could gain (Dopko et al., 2019). Most children seem to enjoy being in nature and report positive feelings, like those of calmness. Because nature produces psychological well-being, it is important to think of accessibility. According to Tillmann et al., (2018), accessibility influences the chances that children will interact or even

encounter nature. It has been shown that if children live near nature or their school has green yards, they experience less stress and higher psychological well-being. There are other immediate benefits as well, such as more energy, less anger and a higher positive affect (Dopko et al., 2019). When children spend time outdoors, apart from the overwhelming access to technology they have at their fingertips, they are able to experience real life in real time which is important in bumping up brain power (Musolf, 2014).

It is important to understand that because humans are socially oriented beings, they need healthy personal and intrapersonal connections to experience psychological well-being (Uhlmann, 2018). A sense of belonging can come from many places, such as being in nature. Because childhood has changed so much in the last few decades, due to more indoor based play (Uhlmann, 2018), it is important to remind children of the benefits that come from nature and get them out of the 'nature deficit' they are in.

Children's psychological well-being can be benefitted by many aspects nature has to offer. Research shows that nature experiences, like gardening, not only increase children's empathy for the natural world, but also helps them with perception, self-esteem, self-acceptance and self-efficacy (Uhlmann, 2018). Nature has also been shown to reduce stress by buffering negative effects that come from stressful situations (Uhlmann, 2018). It is important to make room for these buffers because childhood is a critical time for adaption and socialization. During this time young people are developing their own values, habits, attitudes, preferences and behaviors that will follow them into adulthood (Uhlmann, 2018).

Importance of Children's Emotional Well-Being

Positive emotional well-being is fundamental to general health (Huynh et al., 2013). Early childhood experiences are arguably the most impactful experiences an individual will face

in their lifetime. This is because early childhood sets the stage for the way children will view themselves, others, and their world (Bagdi, 2006). Two early childhood theorists, Erikson and Vygotsky, came up with the idea that children need somewhere, in this case a garden, that they are able to safely and predictably call a base for exploration (Bagdi, 2006).

Research also shows that exposure to nature is linked with not only stress reduction, but attention restoration as well (Huynh et al., 2013). Huynh et al., (2013), and a group of Canadian researchers surveyed over 17,000 children from the age of 11 to 16 about their feelings in nature. Of these youth, over half reported positive emotional well-being, which was defined as "awareness of one's well-being with a positive outlook on life" (Huynh et al., 2013). This study indicated that nature does indeed benefit children's well-being, but also is the reason well-being is so important. This is because positive emotional well-being encompasses positivity in life in general (Huynh et al., 2013). And finally, positive well-being allows for the building and development of intrapersonal and interpersonal relationships from a young age (Huynh et al., 2013).

Development Plan

Prior to my project there was already an established garden at the Jean Tyson Child Development Study Center. A spring/summer garden had been installed for the children at the center the year prior, but it needed upkeep after the seasons changed. When I was deciding on a thesis topic, I was approached by my academic advisor, Donia Timby, who thought we could use the ideas I had for my thesis to do a creative project that would help clean and update the garden at JTCDSC.

In order to help offset the costs of the creative project, I applied for the Honors College Research Grant through the University of Arkansas, which I was awarded in February 2020.

With this grant I was awarded $3,500 for Spring and Fall 2020 semesters. The brainstorming then began and a spreadsheet containing materials needed for a spring/summer garden was created. This spreadsheet included lots of bright flowers, water elements, edible elements and much more, however the COVID-19 pandemic and university restrictions delayed the installation. When the state of the pandemic was not improving, original plans were adjusted. fall garden, which is exactly what we did. Although COVID-19 changed everything drastically, I was very excited to think about how this change would allow the children to have a place to play, learn, grow and enjoy in seasons other than just spring and summer.

Over the summer I compiled a new list of garden elements and did research on plants that can survive Arkansas winters. Apart from plants, I also did research on how to implement items into the garden that would reflect those found in a typical healing garden. These are, Pansies, Violas, Snapdragons, a small bird bath, bird feeder, bench, large wind chimes made of different materials, a sand box with plastic trucks, diggers and shovels for digging and discovering, and edible elements such as mint, lemon, strawberries, rosemary, basil and pumpkins for the children to watch grow over time. Figure 1 is an overview of the garden that was taken on January 29th, 2020 prior to the project:

Figure 1 – Overview of garden pre-installation

Design Process and Creative Works

With the limited space the garden has, I wanted to bring in as many new elements as possible, while still leaving room for the children to freely explore. The garden is meant for small groups of children which allows for more intentional outdoor play. In gardens, placement is important so everything in the garden is very strategically placed. One of the main priorities was to implement more seating into the garden. With part of the Honors Research Grant funding, we were able to purchase a large adult sized bench and two Adirondack chairs for children. As seen in Figure 2, the Adirondack chairs were placed strategically by a group of stumps in the ground. This is so the children sitting in the chairs can use the stumps as tables or footrests. Next came attaining seating for the adults. The main goal here was to provide functional and comfortable seating that will allow adults and children to comfortably sit together. Part of the garden is on an incline, so we found a level area of ground to place the bench. An important element to add is that educators from JTCDSC are able to sit on the bench and easily see both sides of the garden to ensure the children's safety, as shown in Figure 3.

Figure 2- Adirondack chairs

Figure 3 – Wide bench view

Next, we focused on flowers. Through my research I was able to find flowers that were still bright and cheery – a must for the garden – but that could also withstand the cold winter days to come in Arkansas. These flowers are Violas, Pansies and Snapdragons. Several different colors of the flowers were purchased and scattered throughout the garden space. We were able to reuse the soil that was already in the flower beds from the previous garden

installation, so that eliminated cost and was ecofriendly. We planted ‘Halloween flowers’ (orange and black pansies,) in the same bed as the pumpkins, so when they grow in it will look like a be a fall wonderland. The fairy garden (Figure 4) is one of my favorite spaces we were able to renovate during this project. We removed the flowers that had died over the summer and replaced them with new and colorful pansies and a snapdragon. We were able to revive some of the flowers in the pots next to the garden and we planted some some new pansies that will be a beautiful bloom very soon. In the spring/summer garden the children loved playing with the little gnomes pictured, so we made sure to incorporate those in our renovation.

Figure 4 – Fairy garden

During my research a very common garden addition mentioned was edible elements. The garden already had mint, rosemary, basil, gourds and lemon planted for the children to eat, but we wanted to add more. We added strawberries (per request of one of the classrooms,) pumpkins, radishes and a cabbage. The children will be able to eat them right out of the garden. In Figure 5 you can see the strawberry bed and a few gourds beginning to grow, and in the back, you can see the beds where the rosemary, basil and lemon are planted.

Figure 5 – Strawberry bed

Other important elements I wanted to incorporate into the garden were bird baths and bird feeders to attract wildlife for the children and windchimes for soothing sound effects. One bird feeder had suction cups and we stuck it onto the window of the infant room facing the garden. The goal is to attract birds to the area for the infants to watch. The birdbath is a beautiful blue color (can be seen in Figure 3) that I strategically placed next to the bench. My reasoning for this was so if a bird flew into the bath to clean themselves, the children could sit on the bench and watch the

bird more closely. Above the bench on the fence is a birdhouse where I also placed bird feed. The hope is that this will attract the birds to the area, so the children will be able to see them in their natural environment. Next we purchased two different wind chimes, one made of metal and one made of bamboo so they would each make different sounds. I wanted the children to be able to hear the difference in the materials when the wind blew. One of the wind chimes is placed on the back gate and the other is placed on the arch of the weeping willow (Figure 3). I chose this location because it hangs down far enough so when the children are going through the tunnel, they can ring it when they come out. Another goal for the wind chimes was to make them adaptable so we can change up the atmosphere of the garden for the children. There are hooks around the garden where we can move the wind chimes to ensure the children are always getting a new experience and hearing new sounds in the garden.

Finally, one of the greatest renovations we did was to the digging box. In the original installation of the garden there was a mix of sand and dirt, but overtime it had hardened and lots of weeds grew in. We were able to reuse the base of this digging box by removing all the weeds and turning up the soil, then adding more sand and mixing it together. A child size digger, steel Tonka trucks and shovels were added to the area for the children to use. Next to the digging box is another repurposed element, the mud kitchen (Figure 6). There's dirt around the kitchen and the rain barrel is filled with water so the children will be able to make mudpies and other fun activities in that area. The watering cans and handheld shovels from the original installation were also gathered and placed close to the mud kitchen and rain barrel for easy access to the water and digging box (Figure 7).

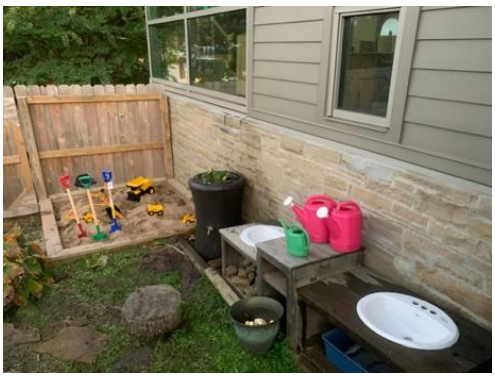

Figure 6 – Mud kitchen and digging box

Figure 7 – Water barrel, dirt and watering can

Discussion

Children are growing up in an environment very different than their parents or previous generations, and a major part of that is spending significantly more time inside (Dopko et al., 2019). While the technological advancements our world has had over the years is impressive and positive in some ways, it has made an impact on children not experiencing nature as much as the generations before them. It is important that all children have that time in nature to explore, learn about others and learn about themselves and where they fit into the world. If children are not surrounded my nature, we need to bring it to them, just as the current project did at JTCDSC.

After I graduate, I aspire to become a Child Life Specialist and work in a children's hospital, which is where my original inspiration for this project stemmed from. I have done lots of research on children that are ill and the factors that can benefit them as they are being hospitalized, nature being one of those. I wanted to build a project around this topic, but for well children, using the garden. I want the children at JTCDSC to benefit from this garden the same way an ill child in a hospital would, because at the end of the day, they are children regardless of circumstance. The hope is that once COVID-19 is controlled, the garden space we created will serve as a demonstration garden for administrators, educators, hospital staff and stakeholders of early childhood.

Being hospitalized at a young age is an extremely stressful and anxiety provoking experience. These hospitalizations can affect children's growth physically and emotionally and can even affect their personality (Delvecchio et al., 2019). Because of this, this population of children are quite vulnerable to psychological issues. Further proving the importance of ensuring children are surrounded by nature, even if they are in a hospital. At the end of the day, all children need a community, social interactions with people like them and a place they are able to

learn, grow and explore. For ill and well children both, interactions with peers is vital to maintain normalcy and ensure that children are developing social skills. The garden at JTCDSC will allow the children a place to safely build those relationships with their peers. Social interactions are important for children's health at all ages, so the garden is designed for small groups of children which makes for more intentional, social play.

The goal of this garden was to serve many purposes and to allow the children many different places to explore. This garden implemented all five senses that humans possess, as do many gardens. You can see all the bright flowers and the wildlife they attract, you can hear the different sounds the wind chimes make due to the different materials of their composition, you can smell the flowers and the edible elements, you can taste the lemon, rosemary, strawberries and basil and finally, you can touch the different plants, snap the flowers on the snap dragon and feel the sand in between your fingertips. Regardless of health, these 5 sensations are beneficial to center children everywhere, and I was sure to implement that in my installation.

Conclusion

The idea for the garden stemmed from thinking of a way to help children emotionally in times of distress. While in the future I want to work with ill children, it's also important to recognize that well children need support on a daily basis as well. As a Child Life Specialist, it's important to have a baseline on what a typically developing child is like, which is why this research is so valuable for me in my future profession. During my research I was able to find countless studies from all over the world showing the benefits nature brings to all children, regardless of their initial health. I wanted to take these findings and provide the children at the JTCDSC a place they can foster all these positive emotions right in their school backyard and I am happy to say this project accomplished this.

The garden opened to the center on October 12th, 2020, and I so look forward to hearing all the stories from the teachers about what the children think of their new space. The major limitation we faced due to COVID-19 was not being able to interact with the children at JTCDSC like we had originally planned. Although we missed out on this opportunity, my hope is that future students will be able to expand on this creative project and do a follow-up study on the children using in the garden in the future. I am extremely happy with the way the garden ended up and I think the children will be as well. I hope my research, renovation of the garden and final thesis will inspire other students like me to step out of their comfort zone and do provides a resource for children.

In the end, the COVID-19 pandemic challenged me to create a better garden and a better space for the children and educators at the JTCDSC. My original plan was for the garden to be a perfect spring/summer garden with huge Sunflowers, fruits and veggies and lots of plants, but that could not happen when installation got delayed until the fall. When I had to readjust my plans, I was reminded that the children at JTCDSC have already had a spring/summer garden before and this was a perfect opportunity to show them something new, such as a Fall garden. When I got to the point of creating a new list for Fall garden elements for the garden installation, I felt so much more fulfilled and motivated to create the best garden I could. It was definitely different than I had planned, but I would not have had it any other way.

The new garden at JTCDSC is one that is unique in many ways, but also resembles a lot of qualities of healing gardens. There is flowing water in the bird bath, shaded seating, edible elements, bird feed to attract wildlife and much more. This installation proved that with time, grant funding and hard work, you really can create a space for children to learn, grow and

explore and it is a space I am proud to have created. I look forward to seeing what children, future students, educators and other professionals are able to do in this space.

References

Bagdi, A., & Vacca, J. (2005). Supporting early childhood social-emotional well being: The building blocks for early learning and school success. *Early Childhood Education Journal, 33*(3), 145-150.

Burls, A. P. (2008). Seeking Nature: A contemporary therapeutic environment. *Therapeutic Communities, 29*(3), 228–244.

Chiumento, A., Mukherjee, I., Chandna, Jaya, Dutton, C., Rahman, A., & Bristol, K. (2018). A haven of green space: learning from a pilot pre-post evaluation of a school-based and therapeutic horticulture intervention with children. *BMC Public Health*, 2.

Dopko, R. L., Capaldi, C. A., & Zelenski, J. M. (2019). The psychological and social benefits of a nature experience for children: A preliminary investigation. *Journal of Environmental Psychology, 63,* 134–138.

Dowdell, K., Gray, T., & Malone, K. (2011). Nature and its influence on children's outdoor play. *Australian Journal of Outdoor Education, 15*(2), 24-35.

Dyment, J., & Bell, A. (2007). Active by design: Promoting physical activity through school ground greening. *Children's Geographies*, *5*(4), 463–477.

Gharipour, M., & Zimring, C. (2005). Design of gardens in healthcare facilities. Southampton: W I T Press.

Hondagneu-sotelo, P. (2017). At home in inner-city immigrant community gardens. *Journal of Housing and the Built Environment, 32*(1), 13-28.

Hurly, J., & Walker, G. J. (2019). Nature in our lives: Examining the human need for nature relatedness as a basic psychological need. *Journal of Leisure Research, 50*(4), 290-310.

Huynh, Q., Craig, W., Janssen, I., & Pickett, W. (2013). Exposure to public natural space as a protective factor for emotional well-being among young people in Canada. *BMC Public Health, 13*(1).

Kabisch, N. (2017). The health benefits of nature-based solutions to urbanization challenges for children and the elderly – A systematic review. *Environmental Research*, *159*, 362–373.

Musolf, D. (2014, Feb 23). Does outdoor play make kids smarter?: New research suggests outdoor play helps build kids' mental muscle. *Contra Costa Times*

Tillmann, S., Tobin, D., Avison, W., & Gilliland, J. (2018). Mental health benefits of interactions with nature in children and teenagers: A systematic review. *Open Access, 72*(10), 1.

Uhlmann, K., Lin, B., & Ross, H. (2018). Who cares? The importance of emotional connection with nature to ensure food security and wellbeing in cities. *Sustainability, 10(6),* 1844.