

**Student Growth Within the School Garden: Addressing Personal/Social,
Academic, and Career Development**

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Abstract

School counselors have the challenging task of implementing a comprehensive, developmental school counseling program to serve a large number of students. We present the creative use of a garden program to promote the development of students through the integration of the natural environment. Additionally, we describe activities and metaphors within the five garden stages encompassed within the program (planning, preparing, planting, maintaining, and harvesting), identify the American School Counselor Association Student Standards (ASCA, 2004) addressed within the garden activities, and discuss the implications and practical considerations for school counselors.

Keywords: school counselor, garden, natural environment

Student Growth Within the School Garden: Addressing Personal/Social, Academic, and Career Development

As our society continues to advance technologically, children find more reasons to stay inside (e.g., watching television, playing video games), instead of engaging in activities within the natural environment (McCurdy, Winterbottom, Mehta, & Roberts, 2010). Researchers report that children who spend less time outside have decreased physical activity (McCurdy et al., 2010). This reduction in physical activity has led to lethargy that may influence children's development of social skills and sense of self (Sackett, 2010). Thus, it is crucial that we create opportunities for children to experience the natural environment, thereby fostering interest and motivation in spending time outdoors.

Children spend a majority of their weekdays in the school environment where counselors, teachers, and other personnel facilitate a variety of activities to promote learning. School personnel also serve as role models for children; and therefore, the school has a unique opportunity to help promote engagement in the natural environment. School counselors can be instrumental in this process by integrating the natural environment within their comprehensive, developmental school counseling programs, as they facilitate activities focused on academic, career, and social/personal development, aligned with the American School Counselor Association National Model (ASCA, 2012).

This article addresses the need for promoting activities in the natural environment within the school setting. We present a summary of the literature regarding the effectiveness of integrating a garden within the school community in regards to

academic learning and social and personal development, crucial areas designated within the ASCA national model (2012). Additionally, we outline a garden program that the school counselor can implement while collaborating with school personnel and other stakeholders. Finally, we discuss the implications for school counselors.

Effectiveness of School Gardens

The integration of a garden program within the school supports a student-centered experiential learning environment (Block et al., 2012; Klemmer, Waliczek, & Zajicek, 2005; Skelly & Bradley, 2000). School personnel can use this environment to promote academic learning (Klemmer et al., 2005; Ozer, 2007; Skelly & Bradley, 2000); health (McCurdy et al., 2010; Newell et al., 2004; Ozer, 2007) and social and emotional learning and life skill development (Barros, Silver, & Stein, 2009; Block et al., 2012; Durlak & Weissburg, 2011; Durlak, Weissburg, Dymnicki, Taylor & Schellinger, 2011; Hawkins, Guo, Hill, Battin-Pearson, & Abbott, 2001; Kuo & Taylor, 2004; Ozer, 2007; Robinson & Zajicek, 2005; Sandel, 2004; Taylor, Kuo, & Sullivan, 2001). Integrating garden activities within the school community fosters the growth and development of children and promotes awareness of the natural environment.

Academic

Schools have integrated gardening within the academic curriculum to promote learning in regards to state academic standards. Schools may integrate gardening within various aspects of the curriculum (e.g., science, math, reading, writing, art, physical education). In surveying teachers ($N = 71$) who were using gardens within the curriculum, Skelly and Bradley (2000) found that 84% of the teachers reported that the garden helped children learn better. Teachers also reported that gardening fostered

experiential learning and facilitated teaching environmental education. In addition, Klemmer and colleagues (2005) examined the effects of incorporating gardening within the science curriculum and found that elementary school students who participated in the garden program scored higher on a science achievement test. Furthermore, involvement in the garden has allowed children to demonstrate skills and areas of intelligence (e.g., visual-spatial skills, physical strength) that they might not have the opportunity to demonstrate in a traditional classroom (Ozer, 2007). Therefore, gardening initiatives may encourage interest and engagement in the general learning process, as well as help promote academic success within specific subject areas as children get excited about learning.

Health

Exposure to nature fosters healthy growth and development in regards to both physical and mental health (McCurdy et al., 2010). Children who spend more time outside are more likely to engage in physical activity, which may help prevent health problems (e.g., obesity). Additionally, exposure to natural settings may help reduce stress (McCurdy et al., 2010). Sandel (2004) reported that youth involved in a gardening project within a juvenile detention center were more calm and relaxed and gardening was also beneficial to the well-being of staff by decreasing anxiety and stress. Furthermore, the school garden provides an opportunity for children to obtain exposure to vegetables and taste them (Ozer, 2007), which was found to contribute to positive attitudes and increased knowledge about fruits and vegetables (Newell et al., 2004). The peer influence associated with the group context also normalized healthy practices

(e.g., eating fruits and vegetables) within the garden setting (Ozer, 2007). Thus, involvement in the garden supports positive attitudes and practices regarding health.

Social/Emotional Learning and Life Skill Development

Activities in the natural environment may also enhance children's social and emotional learning, personal development, and facilitate behaviors conducive to learning. Robinson and Zajicek (2005) examined the effects of a garden program on children's life skill development ($N = 281$). The study assessed life skill development in six areas (working in groups, self-understanding, leadership, decision-making, communication, and volunteerism) following involvement in a one-year garden program, and found that students engaged in the gardening activities demonstrated improvement in their overall development and in the specific areas of teamwork and self-understanding. The researchers concluded that accomplishing garden tasks could contribute to developing self-confidence and a healthy self-esteem. Sandel (2004) also found that youth involved in gardening within a detention facility translated experiences in the garden to insight about their own lives. For example, they related working with a struggling plant in the garden to continuing to focus on their own progress and not giving up on themselves. Additionally, Sandel reported that involvement in gardening may promote pride in oneself, while also creating a sense of belonging. Group gardening projects may also promote social skills and teamwork. Furthermore, Block et al. (2012) found that children engaged in a garden and kitchen program were able to self-direct and complete tasks without repeated redirection or close supervision. Children's self-confidence was also reinforced through a sense of achievement and parents, teachers, and program volunteers reported that the program fostered self-

esteem and independence. Thus, researchers have demonstrated the benefits of gardening in relation to children's personal and emotional growth and development.

In regards to classroom behavior, Barros and colleagues (2009) found that teachers rated students' group classroom behavior better for those who had at least one daily 15 minute period for recess (Barros et al., 2009). Additionally, researchers have found that exposure to natural settings is helpful in reducing attention deficit symptoms (e.g., promoting focus and concentration) among children (Kuo & Taylor, 2004; Taylor et al., 2001). Furthermore, the integration of gardening activities may facilitate student ownership, pride, a sense of belonging, and engagement within the learning environment (Block et al., 2012; Ozer, 2007). Researchers have found that having a bond with the school served as a protective factor against at-risk behaviors (e.g., sexual activity, substance use) and correlated with high academic achievement (Hawkins et al., 2001). Gardening activities were useful in creating a positive connection between children and the school environment for children who were previously disengaged at school. This was evident in providing an opportunity for some children to be successful in school for the first time (Block et al., 2012). Furthermore, involvement in the garden may assist children in connecting with adults, and thus developing healthy relationships with positive adult role models (Ozer, 2007). Consequently, children involved in gardening activities viewed the school environment more positively, which contributed to increased engagement.

Garden Program

Resources are available in print and online related to gardening activities for children (e.g., Junior Master Gardener Curricula). However, in reviewing these

resources, it appeared that their focus was primarily centered on academic learning. This is not surprising since gardens are often integrated within the curriculum to promote academics. A few articles were found that discussed the effects of gardening activities on social and emotional learning and life skill development (Block et al., 2012; Ozer, 2007; Robinson & Zajicek, 2005; Sandel, 2004); however, limited information was provided in the articles regarding specific activities that were intentionally designed to promote social and emotional development. Additionally, the literature does not focus on the school counselor's role in designing and implementing a garden program to enhance the comprehensive school counseling program. Therefore, the purpose of this article is to present specific activities designed to promote personal and social development, while also addressing academic learning that the school counselor can integrate within the school counseling program with collaboration from classroom teachers and other school personnel. We present the integration of garden activities within each of the five garden stages, discuss the use of metaphors to relate the gardening experiences to the students' lives, and address the ASCA (2004) Student Standards in the areas of academic, career, and personal and social development.

The garden program is grounded within a social-ecological framework with components integrated from models presented by Bronfenbrenner (1979); Kelley, Ryan, Altman, and Stelzner (2000); and Ozer (2007). Within this context, change in one system (e.g., school, community, family) may promote change in other systems. Additionally, change within an individual area of functioning (relationships with others, connection with the school, learning) may influence change in other areas (Ozer, 2007). Thus, the program is focused on growth and development through the integration of

activities that promote positive change within the children's micro-systems and areas of functioning.

In developing the gardening program, we wanted to create activities that would maximize the level of involvement from the children. Therefore, the program is designed in a flexible manner to allow modifications based on the children's response to the various activities. Additionally, the activities can be modified for various age groups of children. We also focus on strategies for facilitating collaboration with teachers and other school personnel. The activities encompass the various stages of the garden process: (a) planning, (b) preparing, (c) planting, (d) maintaining, and (e) harvesting. Metaphors are also integrated within the program activities to reinforce social and emotional development, in addition to academic learning, and support the integration of concepts learned beyond the boundaries of the garden to other areas of the children's lives. The basic format for each garden session involves checking in the students, introducing the activity, engaging in the activity, processing the experience and providing closure (may involve sharing journal entries and photographs). Furthermore, the focus of the garden program is on processing the experience and emphasizing learning that can be transferred to the students' daily lives. Thus, it is crucial that the school counselor is involved in establishing and facilitating the garden program to ensure that the process is emphasized without focusing solely on academics.

Planning

The students are involved in the garden from the beginning stage of the process. This is crucial to help children establish ownership for the garden. The first step involves establishing rules for engagement in the garden experience, which includes rules

related to respecting peers and adults, garden equipment, and the garden space (plants, flowers). Within the planning stage, the children engage in discussions about the purpose of their garden (e.g., grow produce to eat, plant flowers and plants for beautification), what type of garden they want to have (e.g., vegetable, flower, butterfly), and what specific seeds, plants, or flowers they want to grow in the garden. The school counselor can use this time to discuss the importance of having a balance in life between meeting your basic needs, while also enjoying life (needing to grow food while also wanting to enjoy the beauty of flowers). The school counselor involves the teacher in this process to discuss types of plants and the growing cycle that would correspond with the season, to focus on science education. We would also suggest selecting plants that have different lengths of time to produce a harvest, with some having a short time frame and others having a longer time period before harvest. This allows students an opportunity to see tangible results within a short time frame, while also providing them with an opportunity to compare the growing cycles of the plants. During this discussion we also encourage showing students pictures of various plants because we have found that many children are unfamiliar with a variety of vegetables, flowers, and plants. The counselor may also invite a gardener from the community to talk with the students or plan a field trip to a nursery, which helps foster a relationship between the school and the community and addresses the career development domain within a comprehensive school counseling program. Additionally, math is integrated within this process by considering the dimensions of the physical space for the garden and determining the amount of plants for the space. This may also involve physical activity as students measure the dimensions of the garden. Furthermore, the school counselor focuses on

personal and social development by teaching communication and decision making skills during this process and relates this experience to making decisions in life through brainstorming, considering the consequences, listening to others' perspectives, and compromising with others. The children also name the garden, which contributes to establishing ownership of the garden.

During this stage of the process, the children create their garden journals. The journals will be used to record their thoughts and feelings about the garden experience and personal growth throughout the gardening process. Journals may consist of a traditional journal format that contains pages bound in a book, or they may consist of more creative formats. For example, children may create a caterpillar head during an initial session and each additional session add another "circle" to the caterpillar that consists of pictures or written descriptions about their experiences in the garden, which incorporates art and writing. The counselor relates the growing caterpillar to the growth of the garden and the growth of each individual student. We have used a heavy paper to create the caterpillar circles and provide pipe cleaners to allow children to add antennas to the caterpillar head. The school counselors may also attach the caterpillars to a bulletin board to allow the students to watch them grow, as they watch their plants/flowers grow in the garden. After creating a journal entry, group members have the opportunity to share their experiences with each other, which reinforces reading and communication skills and provides closure to the group meeting. Furthermore, the children may share their journals with their parents and other family members. The school counselor may also help the students develop a garden scrapbook by having a designated garden photographer take pictures during each session. This role rotates

among the children to allow each child the opportunity to be the photographer. Thus, through the planning stage, the children develop communication, decision making, and socialization skills, while also engaging in academic learning.

Preparing

During the preparation process, the students participate in preparing the physical space for planting. This stage may involve using a variety of gardening tools to till, dig, weed, and add more soil if needed. It is crucial to have close adult supervision during this stage to help prevent injury when working with the gardening tools. Parents and community members can be very helpful during this stage, as well as involved in other aspects of the gardening experience. Students engage in physical activity together to complete this stage, learning that hard work and teamwork is needed to develop a strong, healthy foundation for the plants. Students also learn to share space and develop social skills, contributing to personal and social growth, while also developing independence. This stage also supports academic learning in science and math as students learn about soil composition and measurements. Additionally, the school counselor uses the soil as a metaphor for discussing the importance of developing a strong foundation in life. Having a balanced soil composition is crucial for plant growth. The students discuss factors contributing to their development of a strong foundation for them to grow (e.g., positive role models, doing their best in school, respecting their parents), areas that may inhibit their growth (e.g., getting in trouble at school or home), and the importance of balance in life. Hence, the counselor is able to help connect concepts learned in the garden to experiences in the students' daily lives.

Planting

After preparing the soil, it is time to plant the vegetables, flowers, or other plants, which were decided upon by the group. It is important to demonstrate how to plant the seeds and plants correctly because seeds planted too deep will not sprout and small plants are delicate and could be damaged if not planted with care. We have found success with dividing students up into pairs or groups of three and having each small group work with an adult to plant a row or section of the garden. This develops social skills and teamwork among the small group and the adults, enhancing their ability to work together more effectively and learn from each other. The seeds or plants can be planted all at one time or planting may occur throughout the garden experience, planting additional seeds/plants as the seasons change throughout the year. The school counselor may explain this process by relating it to helping care for a baby or a little animal. You have to be careful not to hurt the plant, just as you are gentle in caring for an infant or baby animal because they are unable to care for themselves. Additionally, the counselor can further relate the experience of working with the tender plants or seeds to interacting with peers and adults and the importance of using care in our words and our actions. The emphasis on being gentle in working with the plants, as related to interacting and caring for others, is also integrated within the garden maintenance stage.

After planting the seeds/plants, the students are given the opportunity to make signs to identify what they have planted within the garden. This gives students an opportunity to be creative, while taking ownership of the garden. The signs can be placed in the garden by attaching them to a stick and placing them at the end of rows or

in the various sections of the garden. The school counselor may also purchase pinwheels and other garden decorations to hold the signs for the rows. In addition to decorating the garden, the spinning pinwheels create vibrations in the ground, which may serve as a deterrent for moles and other creatures that could potentially harm the garden. Furthermore, the school counselor may consider laminating the signs or inserting them into a plastic cover to preserve them during various weather conditions. Thus, the signs serve as lasting markers that help the students distinguish what is planted in each area of the garden as the plants begin to grow, while also providing them with an opportunity to personalize their garden.

Maintaining

The maintenance stage is typically the longest stage of the garden process. During this stage, the plants grow and it remains important to regularly care for the garden (e.g., watering, weeding). Students learn patience and perseverance while they wait for the plants to grow and learn that things do not always come with an immediate reward, but instead require planning and care. Through this experience, the children learn that their daily decisions may have both short and long-term outcomes and consequences. Additionally, we have found it helpful to integrate additional projects into the garden experience, during this stage, to help prevent the students from getting bored or tired of the garden. This also gives school counselors an opportunity to focus on integrating additional activities related to specific counseling topics. This is important because there might be limited work to do in the garden at different times throughout this stage. It is also important to consider garden related activities to facilitate when the

weather does not allow time to work in the garden outside, especially when a time is designated on a weekly basis for garden activities.

When possible, we would suggest conducting activities within the garden even when they involve art or other activities that might be easier to complete within a classroom setting. Having students physically present within the garden helps develop ownership and value for this space. When conducting supplemental activities in the garden, it can be helpful to visually designate an area of space for the activity. The school counselor or teacher can accomplish this by having the students sit on a tarp or on benches or chairs near the garden.

One of the activities you can have students do during this stage is to make anger bugs (Frey, 2003). Students color a template of a bug or create their own bugs and draw and write on the bugs things that “bug” them. Then the school counselor facilitates a discussion about ways to cope with things that “bug” us and students may also be given the opportunity to practice the coping skills. This is related to the garden in regards to how bugs influence the garden and the feelings related to bugs within the garden. The teacher can have a follow-up activity to teach students about various types of bugs and how they may help or hinder the garden. Another activity involves reading a children’s book about the self-esteem of a butterfly (Buzzy the Bumblebee by Denise Brennan-Nelson) and then creating self-esteem flowers. The children cut flower petals out of construction paper and glue them to a paper plate. On each petal a student writes a positive quality about oneself. Then, the students cut out leaves and their peers write positive qualities about that person on the leaves. The leaves are then glued to a craft stick that is then glued to the paper plate. This activity does not involve working in the

garden directly; however, it involves a story and an activity related to nature while addressing self-esteem. Facilitating this activity within the garden provides an additional opportunity for the children to connect with nature. The school counselor can further enhance the presence of nature within this activity by having students collect real leaves, flowers, or other items in nature to include on their flowers. Additionally, the school counselor can integrate activities within the garden to establish it as a calming, peaceful place (e.g., laying on the tarp and discussing the cloud formations, engaging in relaxation exercises in the garden).

The students can also engage in activities to beautify their gardens whether they are vegetable or flower gardens. One activity involves the creation of stepping stones. These are made by pouring concrete into molds and adding gems and pieces of tiles or ceramic items for decoration to the top pressing them gently into the concrete mix before it dries. The students can also put their hand print or initials on the stones, allowing them to develop pride and ownership for the garden and leaving their lasting impression in the garden. It is important to note that some students may be allergic to concrete or plaster; and therefore, it is important to have students wear gloves. The goal is to also encourage teachers to integrate the natural environment more within the school through the engagement of academics (e.g., group or individual reading time) within the garden. This supports the use of the garden, a space created and owned by the students, to help promote students' functioning in various areas (e.g., personal development, academic learning, and connection with the school).

Garden activities may also be facilitated to bring the garden into the traditional classroom setting or the home. We recommend integrating activities to help students be

continuously reminded of the garden on a daily basis, even if they are not present in the garden daily. This can be accomplished by having students plant seeds in a cup. Additionally, students can sprout potatoes in cups of water by placing a potato partly submerged into a cup of water and held by toothpick that are inserted into the potato that rest on the top of the cup. The students can watch the daily progress of the plants by looking at them on the windowsills of their classrooms or their homes and then they can transplant them in the garden after they root. This is also a way to continue involvement in the garden during the winter months. Another activity involves creating birdfeeders, which focuses on interpersonal skills, following directions, and caring for animals. The birdfeeders are created by covering pine cones with peanut butter and rolling them in bird seed. Then, a string is attached to the top of the pine cone to hang the bird feeder from a tree branch or other outdoor object. The bird feeders can be hung around the school yard or taken home. It is not recommended to hang them in the garden because the birds may also eat the plants and flowers in the garden. The counselor will also want to check to be sure that none of the students are allergic to peanut butter before introducing this activity. Thus, the students can engage in various activities within this stage to develop their interest in the garden and the natural environment, while promoting personal/social development and academic learning.

Harvesting

The harvest, the final stage, is an exciting stage within the garden process because the students see the tangible results of their work. However, it may also be a sad time because the plants have matured, serving their purpose, and now they will die and need to be replanted. Through this process students can learn about the life cycle,

recycling, and waste management. They learn that they have a crucial role in the environment. Students can also gather seeds and after drying them, use them to replant the garden. The students have the opportunity to taste the produce that they have raised, which may develop an openness to taste more vegetables in the future, due to growing them in the garden. They learn about nutrition through this process, which may contribute to healthy eating practices. The school counselor may want to collaborate with the school nurse during activities related to healthy eating and physical health. The students may also participate in selling their produce to generate money to sustain the garden and they develop math skills through this process. Additionally, this is a time to emphasize success that comes from hard work and ongoing care of the garden. Having a harvest festival is a great way to celebrate the success of the garden, providing students with time to relax in the garden and enjoy treats while admiring their garden accomplishments. Family members and community stakeholder may also be involved in the garden celebration to provide students with an opportunity to showcase their garden. Students have commented that they feel “special” and “proud” showing what they have accomplished and tasting the garden produce.

During the maintenance stage, as well as this stage, the counselor can also process experiences with the students when some of the plants don't grow or produce a crop and the feelings related to this experience. The counselor can relate this experience to life situations that are beyond one's controls and developing strategies to cope with these situations. Additionally, the students make a decision when to harvest the plants, which involves consideration of various factors when the plants are growing under the ground and they cannot see what they look like until they pull or dig them up.

Consequences result from the decisions made about when to harvest the plants. For example, if plants are harvested at the right time, then the produce is ready to eat; however, if they are harvested too early, the produce will not be developed and the plants cannot be replanted. The school counselor can relate this experience to making decisions in daily life. Once a decision is made, the consequences follow, which may be positive or negative. Some decisions have short-term consequences, while others have long lasting results. Thus, the counselor again uses the garden to help students develop skills that they can use in their daily lives.

Implications for School Counselors

The development of a garden within the school environment provides an opportunity for school counselors to creatively enhance their comprehensive school counseling program. School counselors can implement activities within the garden to promote personal/social development, health, academic learning, and career development, as described above and listed in Table 1. Additionally, the counselor instills interest in the natural environment. Furthermore, the school counselor can use the garden to promote collaboration with other school personnel (e.g., teachers, administrators), parents, and the community.

Table 1*Garden Activities Within the Five Garden Stages*

Garden Stage	Activities	ASCA Student Standards
Planning	Discussion about garden purpose (balance work and pleasure), decide on the type of garden, develop goals (decision-making skills, communication, goal setting)	A:B2, C:A1, PS:A1, PS:B1
	Decision-making about what to plant based on several factors-season, growing cycle, resources (decision-making, problem-solving, communication)	C:A1, PS:A1, PS:A2, PS:B1
	Design garden space (critical thinking skills, problem-solving)	A:A1
	Create garden journal cover and begin journaling (self-expression, reflection)	A:A1, A:A3, A:B1, PS:A1
	Create cover for garden scrapbook (accomplishment, growth)	A:A1
Preparing	Prepare soil-till, dig, weed (teamwork, social skills, communication-asking for help, conflict resolution)	A:A2, A:A3, C:A1, C:A2, C:C2, PS:A1, PS:A2
	Safety discussion-personal space, sharing space (boundaries, respect, social skills)	PS:C1
	Journal about garden and self (self-expression, reflection)	A:A1, A:A3, A:B1, PS:A1
	Photograph garden (accomplishment, growth, teamwork, social skills)	A:A1, PS:A1, PS:A2
	Metaphor discussion: developing a strong, solid foundation (growth, goals, decision-making)	A:C1, C:C1
Planting	Plant seeds/plants in small groups (teamwork, communication, social skills)	A:A1, A:A2, A:A3, C:A1, C:C2, PS:A1, PS:A2
	Metaphor discussion: care with plants related to care with people (respect, communication, interpersonal/social skills)	A:C1, C:C1
	Creating garden signs (pride, ownership, accomplishment)	PS:A1, PS:A2
	Journal about garden and self (self-expression, reflection)	A:A1, A:A3, A:B1, PS:A1
	Photograph garden (accomplishment, growth, teamwork, social skills)	A:A1, PS:A1, PS:A2

Garden Stage	Activities	ASCA Student Standards
Maintaining	Regular care of garden-weed, water (teamwork, persistence, dedication)	A:A1, A:A2, A:C1, C:A2, C:C1, C:C2
	Counseling group activities in the garden	
	- self-esteem flowers (self-esteem, complimenting others, social skills)	PS:A1, PS:A2
	- anger bugs (anger management, coping skills)	PS:A1, PS:A2, PS:B1, PS:C1
	- relaxation techniques (relaxation, coping skills)	PS:A1, PS:B1, PS:C1
	- stepping stones (coping skills, accomplishment, self-expression)	A:A1, PS:A1, PS:A2
	- bird feeders (teamwork, following directions)	PS:A1, PS:A2
	Classroom activities in the garden-reading, etc. (ownership, relaxation)	A:A1, A:A2, A:A3, A:B1, A:B2, A:C1
	Plants in a cup to watch growth in the classroom (accomplishment, growth)	A:A1
	Journal about garden and self (self-expression, reflection)	A:A1, A:A3, A:B1, PS:A1
Photograph garden (accomplishment, growth, teamwork, social skills)	A:A1, PS:A1, PS:A2	
Harvesting	Harvest crop (decision-making, problem-solving, teamwork, coping skills, social skills)	A:A1, A:A3, A:B2, C:A1, C:A2, C:C1, C:C2, PS:A1, PS:A2, PS:B1
	Taste produce (exploration, discovery, accomplishment)	A:A1, PS:A1
	Sell produce (accomplishment, communication, work skills, social skills)	A:A1, A:A2, A:B1, A:C1, C:A2, PS:A2
	Dry seeds for replanting (preparing for the future)	C:A1
	Journal about garden and self (self-expression, reflection)	A:A1, A:A3, A:B1, PS:A1
	Photograph garden (accomplishment, growth, teamwork, social skills)	A:A1, PS:A1, PS:A2
	Party to celebrate garden success (accomplishment, success, social skills)	A:A1, A:A2, PS:A1, PS:A2

DeMarco, Relf, and McDaniel (1999) identified those personnel who are essential to a successful garden. Crucial personnel include those who will take responsibility for the garden. A garden requires continuous maintenance, and therefore, it is essential to have someone involved who will devote time and energy to sustain the garden. It is also important to have school personnel invested in the garden, including the school principal. The involvement of school personnel within the garden provides an opportunity for the counselor to model the integration of nature within the school day, promoting a school culture that values learning within the natural environment. Strengthening relationships with teachers may also develop support for the school counseling program. In addition, working directly with teachers helps reinforce the school counselor's presence within the classroom and provides an opportunity for the school counselor to help teachers promote personal and social development, in addition to academic learning. Furthermore, teachers and other school personnel may also benefit directly from the garden (e.g., reducing stress), similar to what was observed by Sandel (2004). Thus, the garden may promote a positive learning environment for children and a positive work environment for school personnel.

An interest in nature may transfer to the home environment through the involvement of parents. Parents may engage in gardening activities with their children beyond the school environment, due to interest developed through involvement in the school garden. This may also lead to healthier eating practices in the home. Additionally, parental involvement provides an opportunity for the school counselor to develop relationships with parents and also encourages their involvement in other school initiatives. Finally, the parents have exposure to the school counseling

curriculum, which may promote the parents' use of the concepts in the home that were developed and modeled by the counselor in the school environment.

The school garden may also promote involvement from community volunteers. Through the involvement of community members, the school counselor can strengthen relationships with the community, promoting support for the school and the school counseling program. Community volunteers may provide supervision crucial for the success of the garden and may also serve as positive role models for the students. Furthermore, community partners may provide essential financial support to develop and sustain the school garden. Thus, the school counselor uses the garden to help facilitate strong relationships with various stakeholders within the school and the community.

School counselors can also use the garden to facilitate relationships with students. The garden provides a natural space to facilitate individual, small group, and large group guidance lessons. Children may feel more comfortable interacting with the school counselor in this natural space. Additionally, the garden provides students with a place within the school to take a break from the traditional learning environment if they become overwhelmed and need a place to calm down or refocus. This natural "quiet time" may serve as a coping skill for children that they can use in a variety of settings. Furthermore, the school counselor may use the garden as an intervention with students who struggle with connecting and engaging in school. Developing an interest in school through the garden may enhance engagement in academic learning (Block et al., 2012; Ozer, 2007) and lead to academic achievement (Hawkins et al., 2001), while helping prevent at-risk behaviors (e.g., substance use, sexual activity) among youth (Hawkins et

al., 2001). Thus, the garden may provide an environment that helps the school counselor foster relationships with students; therefore, providing opportunities to address concerns in order to promote a positive learning environment.

DeMarco and colleagues (1999) identified several other factors that can be grouped into three additional major categories: (a) physical resources, (b) knowledge and skill, and (c) logistics. Physical resources are essential for establishing a school garden. An area within the school grounds needs to be designated for the garden. In designating this area, there needs to be consideration of various factors (e.g., amount of sunshine vs. shaded area, accessibility, water source, security of the space). Garden tools are also needed in order to successfully develop and maintain the garden and the school should also consider where the tools and equipment will be stored.

Garden knowledge and skill is also needed to have a successful school garden. Lacking basic knowledge can lead to an unsuccessful gardening experience. When there is an interest in gardening, but skill is lacking, the counselor may partner with community organizations who may have the knowledge, experience, and willingness to volunteer with the garden initiative. In addition to providing skill to assist with the garden, community volunteers may also provide additional supervision that can help facilitate a successful program.

The school counselor also needs to consider other logistical issues, which includes the integration of the garden within the school curriculum. School personnel need to be purposeful with integrating the garden within the curriculum. This involves aligning the garden activities with the state academic standards. Furthermore, it

involves devoting adequate instruction time, which may involve meeting as a team to determine when to integrate the garden activities within the school day.

Two additional factors to consider in promoting the success of the garden include (a) safety and (b) sustainability. Safety is essential in facilitating any activity. However, this area is especially important to consider within the garden because it involves activities beyond the walls of the traditional school environment. It is important to include everyone (e.g., school counselor and other school personnel, volunteers, and students) in promoting safety within the garden. Boundaries are more difficult to define in a natural environment. To address this issue, we recommend considering an enclosure for the garden area. Having a fence around the garden also promotes the security of the garden, protecting it from outsiders and animals. Additionally, the school counselor and others working with the children in the garden can establish boundaries by using a tarp, benches or other seating arrangements, as discussed previously. The use of tools also increases safety concerns and requires implementation of procedures to help promote safety (e.g., discussions about proper tool use and tool safety, sufficient adult supervision). Therefore, the counselor, with the help of stakeholders, is purposeful in considering safety concerns and implementing procedures to help promote safety.

Sustainability is also an area for consideration when developing a school garden. The school counselor and other school personnel can work with stakeholders to establish the garden on a limited budget. However, the school will need resources to sustain the garden. School personnel can seek sponsorship from community businesses. Sponsorship may consist of monetary gifts, tools, or seeds/plants. Additionally, garden produce can be sold to generate funds. Students could also learn

how to dry seeds from their own garden to reuse for planting the next season. Thus, school counselors can promote the success of the garden by considering personnel, physical resources, knowledge and skills, logistics, safety, sustainability, and collaboration with stakeholders.

Accountability is a major component of the ASCA national model (2012). The school counselor can implement an evaluation process/conduct research throughout the gardening experience. This may consist of a pre/post-test to examine the effectiveness of addressing specific topics throughout the gardening experience, or at specified points during the project. Additionally, the school counselor may explore the experiences of students, teachers, other school personnel, parents, and other stakeholders engaged in the garden program. The teacher can also provide data regarding academic learning occurring through the garden initiative. The school counselor can then use this quantitative and qualitative data to discuss the effectiveness of the initiative with stakeholders and plan and implement changes for improving the garden program.

Summary

In summary, school counselors have the challenging task of implementing activities focused on academic, career, and personal/social development within a comprehensive school counseling program that is aligned with the ASCA National Model (2012). This article presented a program designed to address these development issues within the context of a school garden program. The proposed garden program addresses students' development through an emphasis on learning beyond the traditional classroom to incorporate the natural environment. In addition to promoting growth within individual areas of functioning (e.g., academic learning, social and

emotional development, health, connection with the school), the counselor can also promote change within systems (e.g., classrooms, school, family, community) through collaboration with stakeholders (e.g., teachers and other school personnel, students' families, and community volunteers). Thus, the garden serves multiple purposes by promoting individual and systemic development within the natural environment.

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