Premier’s Xstrata Coal Rural and Remote Education Scholarship

The importance of sustaining an agricultural connection within schools and local communities

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There is mounting evidence to show that agriculturally based school food garden programs improve academic performance and lead to healthier lifestyles. With the support of state and/or national education programs students are given the opportunity to connect with the land, develop new practical skills, have a greater appreciation for growing food crops and improve their academic development.

School food gardens and agriculture programs lead to stronger community connection and provide an added ‘real life’ learning experience for students.

The New South Wales curriculum guides developing and teaching sustainable agriculture and food gardens in schools practices .The United States and Canada have seen a steady increase over the past few years in education initiatives aimed towards environmental sustainability and food garden projects within schools and the community. In North America this connection with the environment through food gardens has become an important part of students’ learning on a state and regional basis.

The purpose of my study was to investigate school agriculture based programs and their links to communities and other outside support agencies.

My focus for this study was to observe successful school programs and how they engage students in real life learning with the support of the community, state and national programs. These programs help to promote the importance of agriculture and lead to facilitating integration across key learning areas (KLA). They also allowed students to develop teamwork and cooperation skills.

Hawaiian Islands

While Hawaiian schools follow the United States Federal Education Curriculum; there is increased awareness of the need to use traditional Hawaiian foods and culture as part of the curriculum. The main purpose of this curriculum inclusion is to connect native populations to culturally relevant learning through sustainable production of traditional foods and healthier lifestyles.

The University of Hawaii on Oahu plays an important role in making local residents aware the importance of sustainable agriculture practices and traditional Hawaiian food culture. Their facilities at Waimanalo Research Station and the Urban Garden Centre at Pearl City are important sites for schools and the broader community to access. Their extension officers at both sites develop food education programs that give students and the community an awareness of what is a healthy and how it is grown.

At the Waimanalo Research Station extension services were traditionally tailored towards assisting agriculture companies and little contact was made with the local community. A new direction at the research station has now seen a need for engagement with local schools and community groups in educating, in healthier eating habits. Taro is a culturally significant food source and forms part of Hawaiian folklore and culture. It has been an important component in motivating students and the community to grow food and to renew important culture links with traditional Hawaiian foods.

At the Leeward Community Garden Centre in Pearl City a well-designed urban garden is open to the public. The Centre’s staff advertises local educational events through newsletters, Internet and local media; highlighting events and encouraging schools to visit the Garden Centre and learn about sustainable food garden practices. The Centre has a “master garden” education program, which involves training local community members in plant care and development. In return they volunteer at the Centre as guides for school and community garden tours. Local teachers are given the opportunity to improve their capacity to integrate agriculture within their own school curriculum by attending garden programs at the Centre. Participation in these programs provides the teachers with credit towards promotion.

The MA’O Organic Farm on the west coast of Oahu has developed a program that encourages senior students and recent school leavers to remain in study. This area of Oahu has a many socio economic problems and few opportunities exist to motivate youth to improve their education. MA’O gives young people an opportunity to connect with the land, gain an agricultural qualification and as an incentive be paid for working on an organic farm. The MA’O initiative has successfully motivated and educated students in both agriculture, food industry and leadership skills. It maintains a strong presence in the local area and promotes connectedness to the land during school visits and at local markets.

The evolving school garden at Kamaile Academy on the west coast of Oahu is in the same socially poor and transient population area. This charter school has a dedicated garden area for growing food plants endemic to the region. The garden provides a calm space in which to engage students in alternative class based study. The success of this program is due to the dedicated support of the principal and staff. While the practical activities are centred on traditional food crops the teaching and learning is integrated across the KLAs. There is spiritual facet to Hawaiian gardens whereby students contemplate and ask permission to enter the garden; moreover the Taro plant plays a key spiritual as well as cultural role within traditional Hawaiian society. The teacher in charge of this food garden program promotes the schools achievements through school newsletter, sale of produce to staff, parent volunteers and traditional music performances in the gardens.

At Waimea on Hawaii, the Kohala Centre supports the National Farm to School Program, a community based education centre which works with local schools to incorporate food garden programs within the schools’ curriculum. The Farm to School coordinator supports and assists the development of garden based activities, as well as seeking additional external funding grants for continuation of school food based programs.

At Waimea Middle School the school provides funding for a gardener one day per week to look after the school food garden and teach students garden activities. The garden is a visual display for learning, as well as providing students with ‘hands on’ activities and produce to eat at home. The gardener reported it has taken two years to develop the garden and to gain community and school recognition of the garden as an important learning facility. The students hold weekly food stalls for their parents and produce a newsletter informing the community of school garden events.

At the Hawaii Preparatory, the teacher is in the beginning stage of regenerating the land to its traditional vegetation. The site of the garden has its own unique climatic environment, which includes an afternoon mist. Prior to the arrival of traders, the mist would descend over sandal wood forest, then fall through banana trees and finally filter through to the taro plants at ground level. The teacher is hoping to re-capture this historically based ecological cycle. The school has an independent board with own budget and fulltime staff that apply for grants to finance the garden. The School garden evaluates its success through annual parent surveys and by measuring improvements in student awareness of food garden sustainable practices.

Vancouver BC

Within the Vancouver city area a garden in the school grounds is not common and the teaching of practical agriculture based food studies is taught with limited to the classroom. It was reported that of the 170 high schools in the Vancouver Education District only five schools had programs dedicated to producing food or had agriculture based sustainability in their curriculum.

The Vancouver school board support healthy food policies in schools and has developed the “Think and Eat Green” program. The delivery of healthy food programs has been made possible through partnerships with University of British Columbia and community groups such as Fresh roots. The content of this program is helping students to understand the importance of agriculture and food based gardening.

I visited a pilot program at Van Tech High School where community volunteers, gardeners from Fresh Roots are constructing raised bed market garden. This will give students the opportunity to grow and study plants within their own school environment.

Windermere High and Grandview Elementary are supported by the “Think and Eat Green” healthy food program. Both schools have healthy food programs, which are developed to give students a greater understanding of the environment and agriculture-based sustainable food practices.

At Windermere High the teacher has established an environmental youth leadership program as part of the school curriculum and he works closely with the School to Farm coordinator in ensure this the program is well supported. Students work outside the classroom in the glasshouse or in the raised garden beds on environment studies. Students’ achievements are promoted at staff development days and guest speakers introduced to promote food gardening and healthy eating to staff and the invited community.

Surveys are conducted in Year 7 and 8 and the results indicate students have good exposure to healthy foods. However, surveys conducted in later school years show evidence of a decline in healthy food habits and this highlights a need to educate older students in healthy eating habits.

As a way of introducing students to agriculture based food gardens, healthy eating food production, the staff of Grandview Elementary has developed a curriculum based on land and environmental resources. A nutritionist from “Think, Eat and Green” is employed at the school to develop mainstream healthy food programs as well as being in the beginning stages of creating a traditional Native American food garden.

Grandview Elementary school population has very limited opportunity for gardening experience outside of school; thus this curriculum provides students with the opportunity to positively interact in the school garden and broaden and improve their healthy eating options. Specific Year groups run special garden days during the year to invite the community to help in the food garden.

Four elementary schools in the Vancouver School Board work with the University of British Columbia (UBC) in a “Landed Learning” program that exposes students to gardening and tasting new foods; this program is in high demand and has a waiting list of schools. Each school’s teacher develops a teaching program based on key learning experiences at the UBC farm. The Coordinator of the ‘Land Learning” program has students allocated to work and develop a vegetable plot and grow various crops from seedlings through to harvest. The community is invited to volunteer as garden helpers. This volunteer project is advertised through leaflets and in the school newsletter.

On the day I observed Year 7 students from Lord Roberts Elementary working at the farm, a total of 18 helpers was present with a ratio of 1 helper to 2-3 students. The volunteers acted as mentors and helped students garden and connect with the environment. At the end of the day the volunteers discussed the healthy food link with students.

The students appeared to enjoy learning the many aspects of agriculture through practical activities with their mentors: it was a very positive program for promoting food gardening in schools.

Biochar

Another aspect of my visit to the United States was to observe Biochar in use, learn about its promotion and greater use in improving soils. Biochar is a carbon-rich product obtained when biomass is heated under low oxygen conditions.

The North West Biochar working group based in the Washington and Oregon states is actively promoting the use of biochar. In Seattle and Portland I visited people who have a passion for producing the product and promoting its use in the field.

Different types of prototype equipment exist for producing biochar and at a flower farm the biochar has been effectively used to produce quality product. In discussion with all interested parties it was concluded that biochar does help improve the soil and does give impressive plant growth yields. However, overall, biochar currently lacks the full recognition it warrants. There were many small producers of biochar throughout the United States but each lacked the infrastructure to distribute their product widely. In order to increase recognition of its importance, biochar needs to be looked at as a value-adding product. Biochar’s entry into agricultural use is happening slowly, with a number of garden companies now promoting it as a constituent to mix with other garden products on their retail shelves.

Boston District

In the Boston suburb of Dorchester a community based group called FoodCorp runs a food garden program for the community and local schools. I had the opportunity see what had been achieved over two years in converting a car parking space into a large community market garden. Elementary Students from five schools work once a week during spring and summer on their own individual school plots and during winter they participate in activities in a large glasshouse close to the garden site.

FoodCorp works closely with local schools to develop a program that links and each class’s gardening activities to classroom work back at school. Each summer vacation high school students are paid to help maintain the gardens and are trained as group leaders for community based garden projects. This is one way in which the group can target more of the older students to more aware of agriculture activities and improve their awareness of healthy foods.

FoodCorp also links into the wider community, which comprises a low socioeconomic migrant population. There is no need for fences around the students’ crops, as there is an informal ’neighbourhood watch’ over the garden plots. Local residents are also encouraged to have backyard garden plots and many residents grow their own herbs, garden vegetables and fruit. One proud resident called us off the street to ‘show off’ his garden.

Vermont

At Middlebury High School the school is using agriculture based activities to reengage students who are not coping within the regular classroom. Students spend two hours each day participating in an alternative program based on plants and the environment. The school’s budget and external grants fund the program, which runs year round. Students have their own plot and grow, harvest and sell produce. They are given monopoly money in exchange for what they grow and sell thus accumulating their own money, which is redeemed for a voucher at end of each school term. Teachers report fewer discipline problems in the school and students are displaying an increased willingness to learn. It is a valuable exercise in showing students how to learn via connectedness with the land, it also gives the students the chance to be responsible.

In the Burlington district school board independent groups such as the “Farm to School” Burlington School food project is operating to promote healthy eating in schools and encourage more students to be engaged in learning more about agriculture based activities. Schools such as Burlington High and the Integrated Arts Academy Elementary are just starting to integrate agriculture into their curriculum studies. It seems that the support of independent community groups and volunteers is important in helping school initiate programs which help students connect with the environment and participate in experiential learning through food gardens.

I visited two community group based organisations in the Burlington district, Intervale farm and Shelburne farms. Both offered education programs, which give schools the opportunity to visit a working farm. Each community group connected with the community and the school through initial visits to schools and then through community workshops, newsletters and requests for volunteer support. Both had programs offering activities that were student based and focused on agriculture land based experience.

Montpelier High School views the integration of agriculture and food garden production into whole school learning. They aim is to teach students hands on activities across different subjects areas rather than pushing to complete as much as possible in a short timeframe. While working on agriculture based projects, students are given the responsibility to conduct their own work and take responsibility to complete tasks with minimal teacher direction. Again, school personnel interact with local businesses and the community, while working on agriculture based projects, and the importance of agriculture is promoted through newsletters.

Conclusion

North American schools access a number of programs that encourage the promotion of agriculture through healthy food activities. Food garden programs are embedded in the school curriculum and are leading students to be increasingly connected with the land. The importance of having community links with schools is very important; it helps foster student skills development and increased appreciation for growing healthy foods. Community individuals and support groups deliver key components of the overall strategy to help schools engage students in land base activities. A strategy for involving the community with schools takes time to nurture and develop and requires good communication and a respect of community cultural beliefs. School leadership and the support of teachers are vital for the success of any agriculture based program; in some schools agriculture has become part of the school culture.

The use of a sustainable product such as Biochar is being increasingly recognised as an important tool in improving natural agriculture resources. Support for its use in agriculture production is happening on farms in the United States and crop results show it has an important role in improving plant quality and quantity of production. Proponents of Biochar argue that the product has the potential to help address the need for increased world food production and a natural soil improvement additive for backyard, community and school food gardens.

This study shows that Food based garden programs with community support are an effective way of promoting agriculture in schools.

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