



Garden to Table Programme
Final Evaluation Report

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Executive Summary

The Garden to Table Trust contracted the SHORE and Whariki Research Centre to conduct a process and outcome evaluation of the programme implemented in three pilot primary schools, one subscription school and two new schools between February 2011 and December 2012. This report includes process and outcome evaluation findings.

The Garden to Table Trust was established to facilitate a programme in New Zealand primary schools where children aged seven to 10 will learn to grow, harvest, prepare and share food due to a concern that vital skills of growing and cooking fruits and vegetables has skipped a generation. The Trust is officially affiliated with the Stephanie Alexander Kitchen Garden Foundation which has been operating in Australia for ten years and has inspired and informed the aims, values and goals of the New Zealand programme.

Aims and objectives of the evaluation

The broad aim of the evaluation is to assess the quality and success of the Garden to Table programme. The evaluation objectives are to:

- assess the quality of the implementation of the Garden to Table programme
- assess the extent to which the Garden to Table programme has achieved its intended outcomes.

Evaluation design and approach

The evaluation is a case study design which measures aspects of the Garden to Table programme.

Evaluation methods

The process and outcome evaluation involved:

- Interviews with key stakeholders, including principals, teachers, kitchen and garden specialists, parents and volunteers
- Observation of gardening, cooking and meals
- Focus groups with children
- Survey with children
- A document review including school websites

- A brief summary of relevant literature

Evaluation questions

- What is the quality of the programme with regard to its content, design and implementation?
- To what extent has the programme been successful in achieving its intended outcomes?
- To what extent is the programme in keeping with the spirit of the Stephanie Alexander philosophy?

Evaluation findings

The evaluation findings are presented as case studies and evaluative conclusions are drawn as to the overall quality and success of the Garden to Table programme.

Programme implementation and challenges for schools

The implementation model includes the establishment of a garden and a kitchen and the employment of specialists to run the programme. The specialists' time was funded for two years by the Garden to Table Trust. Students are rotated through the programme and experience it a minimum of twice a term and for most once a fortnight. The schools are implementing the programme in this way although two do not have purpose built kitchen facilities.

Support for additional resources for programme implementation has been provided by several businesses who donate seedlings and kitchen equipment. The Trust also provided professional development for principals, teachers and garden specialists that focused on curriculum integration, programme implementation, sustainability and kitchen and garden lesson planning.

In the first year of the evaluation schools reported some challenges regarding the support received by the Trust in relation to funding and lack of understanding of the ways schools operate. This appears to have been rectified due to additions to the Trust board of a representative with school experience. School managers were concerned about sustainability and were building in ways to ensure the programme continued beyond the two year fully funded phase.

What is the quality of the programme with regard to its content, design and delivery?

There is considerable passion and enthusiasm for the programme across all the schools and this was obvious from observations of sessions, focus groups with children and interviews with programme staff and principals. The gardens were well-maintained with prolific crops of seasonal fruit and

vegetables. The kitchen and garden environments were well-equipped mostly through donations from parents and local businesses. The content of the programme is organised around seasonal crops and cooking recipes based on what is available in the garden. Sessions also link to the school's formal curriculum. The delivery model involved dividing classes into two groups; one group to work in the garden and one in the kitchen. The programme is supported by volunteers and includes parents, community members and in one school volunteers from outside of the local community. The children are then divided into several smaller groups and each small group has at least one volunteer. Children work efficiently on the tasks they have been set and tasks are varied to ensure they are exposed to learning a variety of skills. The learning is hands-on and experiential.

To what extent has the programme been successful in achieving its intended outcomes?

There is evidence of successful achievement of the following outcomes. Children have developed knowledge and skills in gardening and cooking. They have developed food literacy which was obvious through their recall of a wide variety of fruit and vegetables, their preparation of food and links to the curriculum. They are willing to taste new foods and the kitchens are bustling places where children are all working cooperatively together to prepare food. Forming new friendships and bonding with each other also occurred as a result of children's participation in the programme.

There is considerable communication about Garden to Table between the schools and their communities. The schools have websites and the programme features on these. In addition, schools have publicised the programme through local media and school newsletters. The programme has also directly influenced community members living near the schools who have either volunteered or started to establish their own gardens.

It is clear that children are developing life skills in the areas of cooking and gardening. Many are accessing recipes created at school and preparing them at home. Some children are also involved in gardening at home, either helping their parents or working in their own gardens. The programme is supported by the local community through the provision of resources, donations and funding from local businesses, charities and corporates which takes a considerable amount of time for schools to action. The programme also provides expanded learning opportunities and application of learning for children through linking units of work to gardening and food preparation.

Evaluative conclusions

What is the quality of the programme with regard to its content, design and implementation?

The case studies provide clear evidence that the Garden to Table programme is of high quality with regard to its content, design and implementation, therefore the rating is **excellent**.

Table 1: Performance rating for programme quality

| Rating | Explanation (how merit is decided) |
|------------------------------|--|
| Excellent | Performance is clearly very strong or exemplary performance in relation to the question. Any gaps or weaknesses are not significant and are managed effectively |
| Very good | Performance is generally strong in relation to the question. No significant gaps or weaknesses, and less significant gaps or weaknesses are mostly managed effectively |
| Good | Performance is inconsistent in relation to the question. Some gaps and weaknesses. Meets minimum expectations/requirements as far as can be determined |
| Poor | Performance is unacceptably weak in relation to the question. Does not meet minimum expectations/requirements |
| Insufficient evidence | Evidence unavailable or of insufficient quality to determine performance |

To what extent has the programme been successful in achieving its intended outcomes?

There is clear evidence that children have gained knowledge and skills in gardening and cooking. Since participating in the programme most children indicated their willingness to try new foods which was quite different to when they first joined the programme. In most schools, children were cooking at home with sometimes or often, they were helping to shop for food and were trying out recipes they had made at school. Many children also reported they were gardening at home and that they would use their gardening and cooking skills in the future. While it is likely that some children were engaged in some of these activities prior to participating in Garden to Table, focus group and survey findings indicated participating in the programme had enhanced their enthusiasm for gardening and cooking both at school and at home. The achievement of outcomes is therefore rated as **excellent**.

Table 2: Performance rating for outcomes

| Rating | Explanation (how merit is decided) |
|------------------------------|--|
| Excellent | Performance is clearly very strong or exemplary performance in relation to the question. Any gaps or weaknesses are not significant and are managed effectively |
| Very good | Performance is generally strong in relation to the question. No significant gaps or weaknesses, and less significant gaps or weaknesses are mostly managed effectively |
| Good | Performance is inconsistent in relation to the question. Some gaps and weaknesses. Meets minimum expectations/requirements as far as can be determined |
| Poor | Performance is unacceptably weak in relation to the question. Does not meet minimum expectations/requirements |
| Insufficient evidence | Evidence unavailable or of insufficient quality to determine performance |

To what extent is the programme in keeping with the spirit of the Stephanie Alexander philosophy?

In order to operate the Garden to Table programme according to the Stephanie Alexander philosophy there needs to be a solid infrastructure and resourcing for schools. In setting up the pilot project the Trust provided funding for fully funded schools for salaries for the kitchen and garden specialists and some infrastructure costs. However, while understanding the funding from the Trust was for the first two years, school managers were nonetheless concerned about future sustainability of the programme.

With regard to implementation, the way in which the Garden to Table programme is implemented is in keeping with the spirit of the Stephanie Alexander philosophy. All schools have established flourishing gardens where the children are engaged in preparing, planting, nurturing, harvesting and preparing food. Three schools have established kitchens and have space for the children to share food together. The other schools are using other facilities such as the hall kitchen or facilities in the art room which while not ideal, still provide children with the opportunity to prepare and share food using seasonal products. Cooking and gardening specialists are employed to implement the classes and the programme has been adopted as an ongoing programme within the pilot schools. The staffing model enables children to work in the garden and kitchen with specialist staff, community volunteers and the classroom teacher. The specialists work closely with the teaching staff to plan activities and menus that are integrated into the curriculum. Planning is organised around the garden's seasonal growing cycles.

Performance rating

The programme is rated as **very good** with regard to being implemented in keeping with the spirit of the Stephanie Alexander philosophy

Table 3: Performance rating for programme philosophy

| Rating | Explanation (how merit is decided) |
|------------------------------|--|
| Excellent | Performance is clearly very strong or exemplary performance in relation to the question. Any gaps or weaknesses are not significant and are managed effectively |
| Very good | Performance is generally strong in relation to the question. No significant gaps or weaknesses, and less significant gaps or weaknesses are mostly managed effectively |
| Good | Performance is inconsistent in relation to the question. Some gaps and weaknesses. Meets minimum expectations/requirements as far as can be determined |
| Poor | Performance is unacceptably weak in relation to the question. Does not meet minimum expectations/requirements |
| Insufficient evidence | Evidence unavailable or of insufficient quality to determine performance |

Concluding comments and next steps

There is evidence the Garden to Table programme is filling a gap in children's learning in relation to gardening and cooking, skills that may have skipped a generation or been lost due to an increasing emphasis on fast foods, technology and households where both parents are working. It is clear that the programme has initiated children to a wide variety of garden produce which they are then harvesting and preparing for shared meals. Skills are also being transferred to the home environment.

The issue of enlisting volunteers, particularly from the local community is a concern for schools. In one school the volunteer base has diminished over the two years and despite varied and strenuous effort to engage more volunteers and the greater community the volunteer numbers remain low. In other schools there are quite large numbers of volunteers, however many of the volunteers are not from the neighbourhood in which the school is based. While there are positive cross-community opportunities for learning (student to volunteers and volunteers to students) through this arrangement, it does raise issues of sustainability of programmes that lack parental or local community involvement.

In some schools the garden and kitchen specialists are also from other communities. This may be necessary if there are no viable candidates for the position locally, however training for the positions

could perhaps potentially be provided. Nevertheless, the current kitchen and garden specialists are highly dedicated and often work above the funded hours and beyond the call of duty to ensure the children are well catered for and the programme is a success.

It is also clear that the programme requires substantial resources to sustain the kitchen and garden specialists, maintain a flourishing garden and ensure the kitchen is well-equipped. Schools are funding the programme in a variety of ways over and above what the Trust was able to provide.

The schools are communicating with their local communities and parents about the programme and one school has a particularly vibrant and engaging website for children and parents to access. The school staff, students, volunteers and specialists are enthusiastic about the programme and have high levels of commitment to the programme.

As a result of these findings the next steps could include:

- examining the actual costs of implementing the Garden to Table programme in schools including the time spent by the kitchen and garden specialists that is beyond their paid hours
- exploring ways to ensure the programme is supported by volunteers in the local community to ensure community ownership and providing training for volunteers
- addressing issues relating to sustainability as the positive outcomes indicate this is a valuable school-based programme that engages and provides children with hands-on experiential learning in small groups
- continuing to offer the Garden to Table programme to schools nationally given the excellent outcomes achieved

1.0 Introduction

This report covers a process and outcome evaluation for the Garden to Table programme undertaken by SHORE and Whariki Research Centre for the Garden to Table Trust (the Trust). Process evaluation involves activities directed at making assessments in relation to the quality of the implementation of the Garden to Table programme. The evaluation was conducted in the three initial pilot schools, one subscription¹ school and two new schools between February 2011 and December 2012. The key components of the process and outcome evaluation included:

- A literature review of the existing evidence and knowledge about school gardening, nutrition and cooking programmes
- The development of a logic model to show the intervention and intended outcomes
- Conducting focus group with children
- Conducting key informant interviews
- Conducting a survey with children
- Observing the garden to table programme in action
- Preparing a report on the process and outcome evaluation findings

This report includes process and outcome evaluation findings.

1.1 The Garden to Table Programme

The Trust was established to facilitate a programme in New Zealand primary schools where children aged seven to 10 years will learn to grow, harvest, prepare and share food. Concerned the vital skills of growing and cooking fruits and vegetables had skipped a generation and could be lost forever, Dish Editorial Director, Catherine Bell began recruiting members to form the Trust, recruit pilot schools and start fundraising. The Garden to Table programme is modelled on Australian chef Stephanie Alexander's Kitchen Garden scheme established in Melbourne, Australia 2001. Beyond the obvious positive learning, social and health outcomes, the Garden to Table programme aims to have positive spin-offs for family and community life. While the Trust uses the Stephanie Alexander model

¹ The Subscription Program enables schools to create their own version of the successful Garden to Table Programme and draw on the knowledge and expertise gained by the [Kitchen Garden Foundation](#) over many years of intensive practice. Subscribers have access to an extensive range of information and resources from both the Stephanie Alexander Kitchen Garden Program and the Garden to Table Programme.

(see literature review), the New Zealand programme takes into account the cultural and curricular differences in New Zealand schools.

Each school develops differently – no two schools will ever be the same in the way they run the programme. We needed to know the schools were going to be able to adapt to suit themselves [Catherine Bell, Garden to Table website]

The Trust is officially affiliated with the Stephanie Alexander Kitchen Garden Foundation which has been operating in Australia for 10 years and has inspired and informed the aims, values and goals of the New Zealand programme. The relationship gives New Zealand schools access to the materials and website resources generated by the Australian sister project.

Purpose of the Trust

To establish a programme to train and educate children in New Zealand schools in the practice of:

- creating gardens and growing vegetables
- harvesting the bounty of gardens
- cooking the produce, using kitchen equipment they have been shown how to use safely to produce delicious food
- sharing the food they have prepared around a table with classmates, teachers and volunteer helpers
- sharing their accomplishments in writing and in images through the Internet with the world at large

The Trust aims to:

- raise funds and obtain sponsorships and distribute them to participating schools to assist them with establishing the programme
- develop operating and training materials for schools, teachers and volunteers to facilitate the rollout of the Garden to Table programme to other schools throughout New Zealand
- to engage with the appropriate authorities and lobby for the inclusion of the programme in all New Zealand State Primary Schools
- positively publicise the programme

The Pilot Project

The Trust launched the pilot programme at the beginning of 2009 with three primary schools in the Auckland region Meadowbank Primary, East Auckland; Peninsula Primary, West Auckland and East Tamaki Primary, Otara. At the time of commencing the evaluation three additional schools were implementing the programme: Moanataiari Primary School, Thames (a subscription school), Dawson Primary School, Otara and Owairaka Primary School, Mt Albert. In total, 14 schools are now implementing Garden to Table. Detailed descriptions of the way in which the programme operates in each school are described in Section 4.0: Evaluation Findings.

What it means to be a pilot school

Pilot schools are expected to:

- establish an extensive fruit and vegetable garden which students help design, build and maintain on the school grounds
- create a home-style kitchen classroom which will operate sustainably and be used to prepare and share meals using food grown in the school garden
- employ cooking and gardening specialists to implement the classes
- adopt the programme as a permanent on-going programme within the school

Other expectations of the schools include:

- making a sustained commitment to the programme as a whole school
- employing appropriate part or full-time specialist staff
- engaging parent and/or community volunteers
- working with the media to positively promote the programme
- implementing integrated cross-curricular programmes
- implementing and maintaining sustainability initiatives
- documenting the project and sharing its outcomes with the school and other communities

The schools must also aim to

- stress the flavour, texture and pleasure of food by encouraging the children to talk about and experience it with all their senses
- avoid using the word 'healthy' as the main descriptor
- teach gardening and cooking techniques that enable children to grow food and cook simple dishes at home

- plan culturally sensitive menus based on local seasonal availability of fruit, vegetables and herbs
- expand children's culinary horizons and present cultural and culinary differences as fascinating rather than strange
- expand children's vocabulary for describing flavours, textures, plant families and names
- use the freshest ingredients cooked with care when at their best to let children experience food that is both palatable and delicious.

The programme aims to get children around the table to share food with others that they have enjoyed helping to grow, harvest and prepare.

Funding model

There are two funding models for the Garden to Table programme. Fully funded schools receive up to \$60,000 over a two year period. Up to \$45,000 of this is for garden and kitchen specialist salaries and \$15,000 is for infrastructure costs. It is expected that by the end of two years schools will have a kitchen classroom, sufficient gardens and salaries built into their operational budgets. Subscriber schools receive no funding from the Trust and pay \$2,500 to join the Garden to Table programme. This provides them with manuals, training and access to partners and sponsors.

2.0 Literature review

The purpose of the literature review was to identify school gardening, nutrition and cooking programmes, their implementation models and how effective the programmes were in achieving their intended outcomes. The review draws on international literature selected on the basis of having particular relevance for the Garden to Table programme.

2.1 Literature review methodology

The literature review was conducted by searching the following databases: MEDLINE, Web of Science, SSCI, Cochrane Library, PubMed, PsychINFO, Google Scholar and relevant websites. Grey literature was accessed by conducting general internet searches using Google. As far as possible, literature from the last ten years has been included along with some earlier relevant research. The following search terms and key words were used alone or in combination: school/ garden/ gardening/ kitchen/ cooking/ nutrition/ environment/ evaluation/ research/ programme/ program-effectiveness/ interventions/ implementation models.

2.2 Considerations when reading the review

When interpreting the review the following considerations are necessary. There have been few rigorous evaluations conducted on school gardening programmes either internationally or nationally. This paucity of evidence for 'what works' should not be interpreted as 'nothing works'. While rigorous evaluations are scarce, many programmes may in fact be achieving important outcomes.

2.3 Rationale for school gardening

Gardening changes the status of food for all involved. When one gardens food can no longer be viewed as a mere commodity for consumption; we are brought into the ritual of communal goodness that is found at the intersection of people and plants. Food that we grow with our own hands becomes a portal for personal transformation (Thorp & Townsend, 2001, p. 357).

In previous decades, school gardens have been promoted by Rousseau, Gandhi, Montessori and Dewey (Subramaniam, 2002). In the United States, school gardening was originally introduced for aesthetic purposes becoming a national movement first in 1918 and again with a focus on food

production during World War II. However, with an increasing focus on technology school gardening waned during the 1950s (Subramaniam, 2002).

In recent years there has been growing concern regarding children's exposure and access to fresh foods. Many children do not know where fruit and vegetables come from or how they are grown and prepared (Oxenham & King, 2010). School gardens offer a systematic approach to redesigning outdoor space around schools into learning landscapes. Children are introduced to sustainable food systems, as they eat what they have produced, compost food waste and connect with adult growers. They learn "how a plant goes from seed to plate" (Rahm, 2002, p.175). Various authors (Blair, 2009; Doerfler, 2011; Miller, 2007; Morris, Briggs, & Zidenberg-Cherr, 2000; Parmer, Salisbury-Glennon, Shannon, & Struempfer, 2009) acknowledge that different forms of nutrition education including gardening, harvesting, preparing and sharing food can reinforce healthy eating and enhance children's food knowledge.

Exposure to gardening in childhood can help shape adult attitudes and environmental values. A review of the literature conducted by Chawla (1998) found that adults who had positive and significant exposures to nature as children were more likely to be environmentally sensitive, concerned and active. Adults participating in community gardening projects were found to have gardened as children (Blair, Giesecke, & Sherman, 1991). A study of metropolitan adults' attitudes toward trees and gardening found active childhood gardening experiences influenced whether adults valued trees (Lohr & Person-Mims, 2005). Findings from a qualitative study involving 100 Californian and Norwegian gardeners exploring the significance of gardens in their memories suggested:

Garden meaning is a complex ecology of idea, place and action. We found that when children become involved as gardeners or farmers rather than as passive observers of gardens, a deeper significance and meaning is established. Gardens that operated on all levels simultaneously – as idea, place and activity – can become sacred places (Francis, 1995, p.8).

2.4 Theoretical frameworks for gardening programmes

Several theoretical approaches underpin successful gardening programmes: social cognitive theory, experiential learning, sufficient time and intensity and supportive school characteristics.

Social cognitive theory

Effective programmes are based on sound theoretical frameworks. One model found to be effective with school-age children is social cognitive theory (SCT) (Contento et al., 1995). Three SCT factors understood to be involved in positively influencing health-related behaviours are personal such as beliefs, values and knowledge, behavioural such as skills needed to complete a task and monitoring habits; and environmental such as surroundings, peer modelling and parental support (Bandura, 1986). In order to successfully change behaviour, programmes based on SCT need to influence all three of these factors.

A socio-ecological-transactional perspective

Within this perspective the child is viewed as being nested within the immediate contexts or micro-systems of school, home and community that interact with each other and the child over time to shape their healthy development (Bronfenbrenner, 1979). The transactional emphasis of this perspective is one of interdependence, where one component of the system will produce changes in other components, for example changes in student functioning such as nutrition and bonding to school may influence similar changes in family and community environments (Kelly, Ryan, Altman, & Stelzner, 2000). The health promoting schools conceptual framework is a whole school approach based on a socio-ecological-transactional perspective. (World Health Organisation, 1997b). Key to a successful whole school approach is the linking of students, home, family, wider school environment and the formal and informal curriculum.

Experiential learning

The learning that occurs through school gardening which is grounded in concrete experiences is considered experiential and inquiry-based (Corson, 2003; Kellert, 2002; Rahm, 2002). Various studies (Mabie & Baker, 1996; Waliczek, Logan, & Zajicek, 2003) focusing on other hands-on nature based programmes concluded that experiential learning rather than gardening per se resulted in the development of higher-order cognitive skills for children. Others (Rahm, 2002; Thorp & Townsend, 2001) concluded that there are differences between a structured learning experience and longer-term involvement in the gardening process. The learning that occurs through gardening can be spontaneous, involving students and their adult mentors in multidirectional learning (Rahm, 2002; Thorp & Townsend, 2001). In fact, Rahm (2002), in studying the conversations between African-American students and master gardeners found informal science education through gardening conversation flowed in a natural organic way, involving “sense making through discourse” (p.179).

Time and intensity

To be effective gardening and nutrition programmes need to be of adequate time and intensity. Evidence suggests that approximately 15 hours of instruction are needed to change an individual's knowledge and 50 hours is needed to change their behaviour. In order to provide this amount of time, nutrition and gardening programmes can be integrated into other subject areas. The level of intensity at which teachers implement lessons correlates with programme effectiveness.

Characteristics of the school setting

Several important characteristics of school settings have been identified as supporting school gardening initiatives. These are a whole school approach incorporating the physical environment, peer relationships, capacity and collective efficacy of the school community, parent involvement and school community relationships (Ozer, 2007).

2.5 Implementation models

School gardens vary in scope ranging from a wide expanse of plantings to smaller above ground planter boxes. Typically, school gardening programmes are accompanied by a nutrition education component. The most commonly reported models, described below, provide hands-on experiential learning opportunities in gardening, cooking harvested crops and sharing food.

The Edible Schoolyard programme, founded in 1995 by Alice Waters began in Berkeley, California in an elementary school. The programme employs a kitchen and garden specialist and is supported by community volunteers, teachers and students. The two specialists work closely with classroom teachers to develop gardening and cooking sessions that are linked to the school curriculum. To date, over 7000 students have participated (<http://edibleschoolyard.org/>).

The Stephanie Alexander Kitchen Garden Programme in Australia, started in 2001, provides opportunities for students to learn to build and maintain a garden according to organic principles and to grow and harvest a variety of vegetables, fruits and herbs. The garden and kitchen provide a real-life context for learning which interweaves the theories and practices behind growing, harvesting, preparing and sharing fresh seasonal foods. Students prepare dishes from the seasonal produce grown. The table is set and the food is shared by students, specialists, teachers and volunteers. The staffing model for the Kitchen Garden Programme enables children to work in the garden and the kitchen with specialist staff, community volunteers and the classroom teacher. The specialists work closely with the teaching staff to plan activities and menus that are integrated into

the curriculum. Planning is organised around the garden's seasonal growing cycles (<http://www.kitchengardenfoundation.org.au/index.php>).

In the Medak district of Andhra Pradesh, India, the Centre for Environment Education (CEE), Andhra Pradesh State Cell, implemented the project 'Student Amateurs in School Yard Agriculture (SASYA)' in 150 schools with support from UNICEF Hyderabad and the Department of Education (Sarva Siksha Abhiyan). The Medak district is a semi-arid district with an average annual rainfall of 80 cm with agricultural activities being mainly dependent on rainfall. The aim of the project was to provide chemical-free, nutrient-rich vegetables to the children and to provide an opportunity to learn by doing. Schools were selected based on the available space, water, and fencing. A small start-up kit was provided with a manual with guidelines, vegetable seeds and other requirements like sample bio-fertilisers, bio-pesticides and equipment like hand sprayers.

Groups of 10 schools were resourced with a teacher, the Mandal Educational Officer, and a field coordinator from a Non-Governmental Organisation (NGO). The resource group provided ongoing support to schools. The village community supported the development of gardens and villagers provided garden tools, fertiliser and seeds. Teachers and students played an active role in initiation and maintenance of the gardens and student committees maintained the gardens under the guidance of teachers. Plans were developed for care during holidays as well. Midday meal cooks were also involved in garden management aspects like regular watering, harvesting, and utilising the produce for cooking

The midday meal cooks were also involved in garden management which included regular watering, harvesting and utilising the produce for cooking. The produce was used for midday meals in each of the schools on average two to five times per week. The menu included 10-15 varieties of vegetables whereas the old menu included three. In some schools some vegetables were also used by the teachers and shared with the community. Some schools sold produce (Kommu, 2010).

2.6 Implementation challenges

Limited resources of funding, personnel and time are considered the most significant challenges to school kitchen gardening programmes. Findings from a study in Los Angeles found 14% of district schools had not been able to sustain their garden programme due to lack of: time on the part of teachers or garden maintenance staff being overloaded with other tasks; funding; support from parents and/or volunteers, gardening experience; and space (Azuma, Horan, & Gottlieb, 2001). Other factors included ineffective curriculum integration, challenges to garden maintenance during

school holidays, loss of key project personnel (garden and/or kitchen specialists) and lack of value for the programme as a teaching tool (Azuma, et al., 2001). Schools in the study with successful, sustained programmes reported support from the principal, teachers, parents and students. Funding for the programmes was separate to the funding to run schools and most came from donations, labour and materials from school and community members (Azuma, et al., 2001).

2.7 Effects of school garden programmes

The implementation of kitchen garden programmes is a relatively recent phenomenon, therefore research and evaluation of such programmes is relatively limited. Existing evaluation studies vary considerably given the differences in the way in which programmes are implemented and in the methodologies adopted. This has led to inconsistencies in findings. Some programmes are of relatively short duration – 10 -12 weeks – while others extend between two and four years, thus exposing students to a much longer-term intervention.

A review conducted by Ozer (2007) found fewer than 10 peer-reviewed journal articles and after accounting for multiple articles from the same project, five separate research articles were identified. Findings from these studies indicate promising but inconclusive evidence of the effectiveness of programmes focusing on outcomes of health-related knowledge and food preferences. For example, a quasi-experimental study among 200 students (9 classes from 3 schools) found that in schools with a garden-enhanced nutrition education programme, fourth-grade students' knowledge and preferences toward some but not all vegetables were greater than in schools without gardens (Morris, Neustadter, & Zidenberg-Cherr, 2002).

A 12-week in-school intervention on fruit and vegetable intake among sixth-grade students from three elementary schools in south-east Idaho was evaluated by McAleese and Rankin (2007) to determine whether garden participation would enhance intake more than nutrition education alone. The evaluation comprised two intervention schools (n=70) and one control school (n=25). The intervention schools were divided into nutrition alone (n=25) and nutrition education combined with food preparation and gardening activities (n=45) which included weeding, watering and harvesting a variety of autumn crops. Students participating in the nutrition education combined with gardening experiences significantly increased ($p<0.001$) their daily intake of fruit and vegetables from 1.9 to 4.5 servings when compared to 2.1 to 2.2 servings among the students in the education only group and 2.4 to 2.0 servings among students in the control group.

A 17-week, in-school intervention on vegetable preferences, willingness to taste vegetables and nutrition knowledge among students (n=213; fourth grade) from three California elementary schools

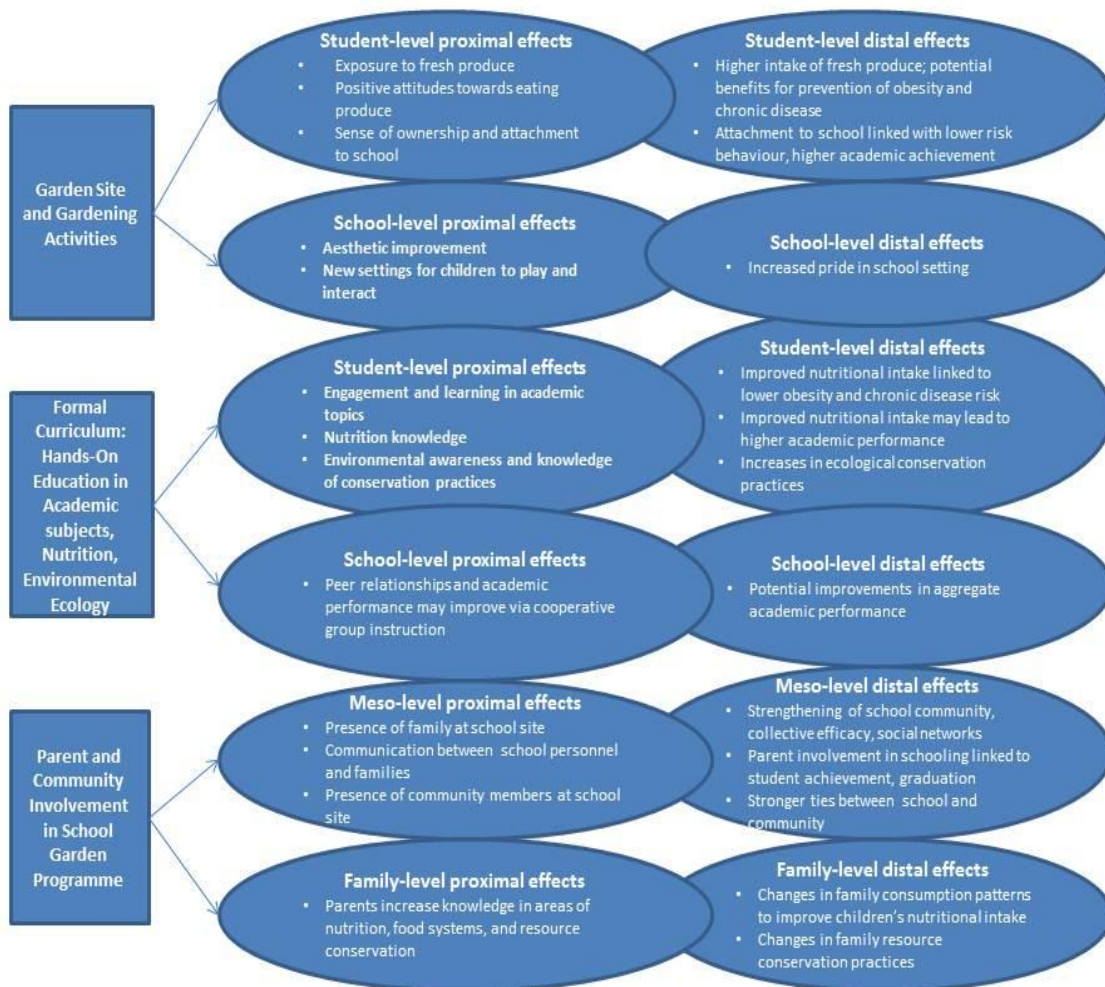
(two intervention and one control school) was evaluated by Morris and Zidenberg-Cherr (2001). Findings indicated post-test preference scores for carrots and broccoli were greater for students who participated in nutrition education combined with gardening activities than those who received nutrition education only.

Another evaluation conducted by Morris and colleagues (2001) of an eight-month pilot study on vegetable preferences, willingness to taste vegetables and nutritional knowledge among students (n=97; first grade) indicated the intervention students were more willing than control students to taste spinach, carrots, peas, broccoli, zucchini and red bell pepper ($p < 0.005$).

A conceptual model of potential effects of school gardens

The following framework (Figure 1) developed by Ozer (2007) shows the potential effects of school garden programmes. The figure is read from left to right, with components of programmes (depicted in boxes) leading to potential proximal and distal effects (depicted in ovals). The effects are conceptualised on the level of the individual student, the family and school micro-systems and the interconnections among micro-systems (meso-system).

Figure 1: Conceptual model of potential effects of school gardens



As indicated by the conceptual model above, in addition to gardening and nutritional knowledge, there is evidence that kitchen garden programmes positively influence students and schools in other ways. Qualitative data from interviews, reviews of reports and websites indicate these programmes promote students' achievement, motivation to learn, psychosocial development (self-esteem, responsibility), positive behaviour, relationships and cooperation with peers (Pranis, 2004). School personnel have also cited positive effects on school culture and environment "including collective pride that this is a "good" school; increased sense of "ownership" of the school by the students" and "the creation of a safe, adult-monitored setting" and students' feelings of attachment and belonging to their school (Ozer, 2007). Findings from the National Longitudinal Study of Adolescent Health indicated that adolescents who report feeling more connected to school show lower levels of emotional distress, risk behaviour and aggression (Resnick et al., 1997). In addition, interventions that increase children's bonding to school have shown long-term results of lower substance abuse,

delinquency, violence, academic problems and sexual activity in adolescence and young adulthood (Hawkins, Guo, Hill, Battin-Pearson, & Abbot, 2001).

An evaluation of the Stephanie Alexander Kitchen Garden programme used both quantitative and qualitative methods (Block & Johnson, 2009). Qualitative findings indicated children were enthusiastic, engaged and more confident:

At the beginning I could see a range of confidence – I hadn't been in a primary school since I was a child but you could see which kids weren't academically successful. Now all kids are full of confidence. I've seen them change...they've become empowered [staff member].

The programme was also found to engage children with challenging behaviours and learning difficulties and develop teamwork and social skills:

A child who struggled and had learning disabilities...and just her confidence and her ability to outshine other kids, who have strengths in other areas was just amazing and she was just really comfortable, in her element. She knew exactly what she was doing, she was in control, she was starring while she was organising the other kids. The building of confidence was just amazing [classroom teacher].

Considerable benefits to home and community were also noted with the fostering of a volunteer base and schools linking with each other to share resources. At home children were found to be cooking and gardening and trying out new foods.

2.8 The benefits of connecting children with nature

In recent years various authors have expressed concern about children becoming disconnected from nature. Possible reasons for this disconnection suggested by Louv (2005) are that society has become increasingly high-tech and indoor focused and children in urban areas are not experiencing outdoor activities due to concerns for their safety. Key benefits of experiences with the natural world have been identified as having: concern for the environment (Palmer, 1993); a sense of wonder and imagination (Wilson, 1997); the ability to concentrate (children with ADD) (Taylor, Kuo, & Sullivan, 2001); awareness, reasoning and observational skills (Pyle, 2002); personal skills, including confidence, social skills and self-efficacy develop (Dillon et al., 2005); development of senses (Louv, 2005); and knowledge and understanding of geographical, ecological or food production processes (Dillon, et al., 2005).

Benefits of children being involved in garden-based learning activities include: increased interest in healthy foods – eating fruit and vegetables (Lineberger, 1999; Pothukuchi, 2004); increased physical and mental wellbeing, ability to identify and work towards personal goals, particularly for children with behavioural problems or attention issues (Thrive, 2006); increased positive attitudes about environmental issues (Waliczek & Zajicek, 1999); improved numeracy and literacy skills and knowledge of the environment (Thrive, 2006); increased interpersonal relationships and positive attitudes about schools with garden-based programming (Waliczek, Bradley, & Zajicek, 2001); increased scores on science achievement (compared to students without garden-based learning activities (Klemmer, Waliczek, & Zajicek, 2005); increased engagement for children with behavioural problems or attention issues (Thrive, 2006); and increased overall life skills, self-understanding and ability to work in groups (Robinson & Zajicek, 2005).

2.9 Conclusion

Based on reviews of relevant but relatively limited literature, the evidence for the effectiveness of garden-based nutrition education is promising. There is the potential for kitchen and garden based programmes to lead to improvements in fruit and vegetable intake and willingness to taste fruit and vegetables. School garden programmes show promise as a method of hands-on learning and helps children understand where foods come from and how they are grown and prepared. Gardening not only provides an opportunity to improve students' awareness of fresh produce but it also increases their awareness of the environment.

3.0 The Evaluation

3.1 Aims and objectives

The broad aim of the evaluation is to assess the quality and success of the Garden to Table programme

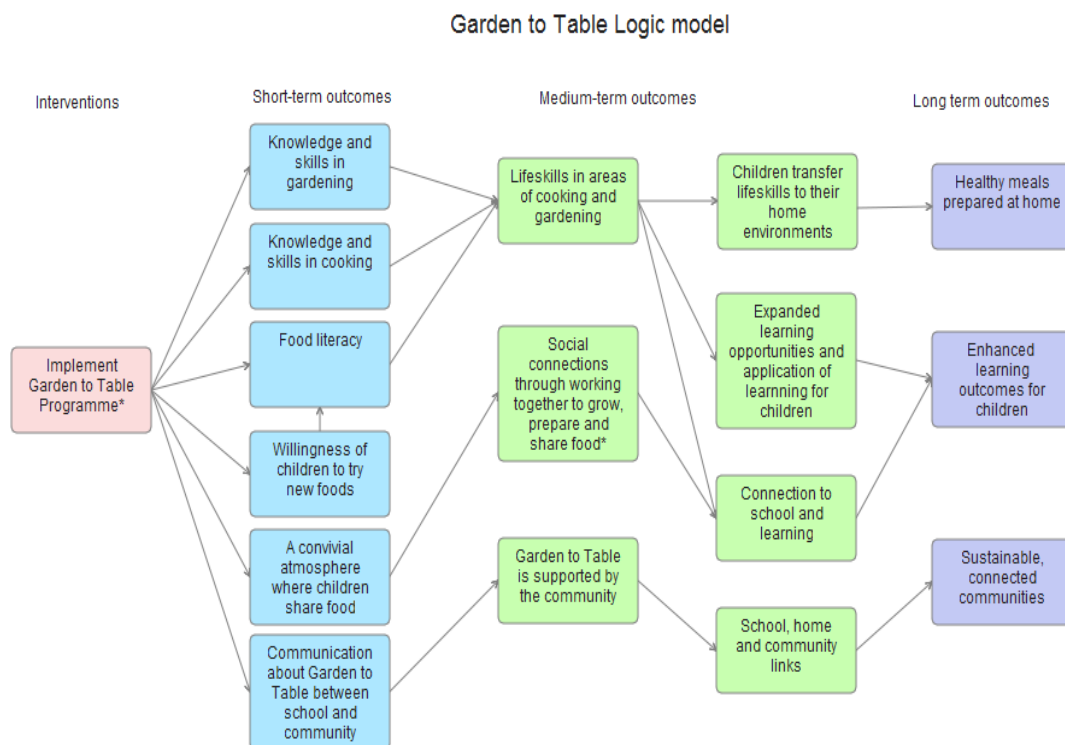
The evaluation objectives are to:

- assess the quality of the implementation of the Garden to Table programme
- assess the extent to which the Garden to Table Project has achieved its intended outcomes

3.2 Programme logic

The evaluation approach is theory-based with a strong utilisation focus. The programme theory, that is the explanation of the way in which the programme is expected to achieve the desired outcomes, is depicted in the logic model (Figure 2). The logic model is read from left to right and shows the programme activities and intended outcomes; short, medium and long-term.

Figure 2: Garden to Table logic model



3.3 Evaluation design and approach

The evaluation is a case study design which measures aspects of the Garden to Table programme. This includes a detailed, in-depth description and analysis of the project drawing on multiple sources of evidence (DePoy & Gitlin, 1994). The evaluation uses qualitative and quantitative methods. Data collected informed the process and outcome evaluation and enabled judgements to be made about quality and success.

3.4 Evaluation methods

The process evaluation describes and documents the implementation of the programme and involved:

- observation of gardening, cooking and meals
- interviews with key stakeholders including principals, teachers, kitchen and garden specialists, parents and volunteers
- focus groups with children
- document review including school websites
- a brief summary of relevant literature

The outcome evaluation describes and documents early outcomes of the programme as shown in Figure 1. The outcome evaluation activities included:

- observation of gardening, cooking and meals
- interviews with key stakeholders including principals, teachers, kitchen and garden specialists, parents and volunteers
- focus groups with children
- survey with children
- document review including school websites
- a brief summary of relevant literature

The purpose of the observations of gardening, cooking and meals, interviews with key stakeholders and focus groups and a survey with children was to gain a better understanding of the way in which the Garden to Table programme is implemented and outcomes being achieved. Ethics approval was obtained from the Massey University Human Ethics Committee.

Observation

The three pilot schools were visited twice between February 2011 and December 2011. The visits involved meeting the Principal, kitchen and garden specialists, teachers, volunteers and children. The evaluators observed the programme in action and were invited to share food with the children. The three new schools were also visited by the evaluators during 2011 and 2012.

Interviews

In-depth interviews were conducted with key stakeholders in each school during October and November 2011 (three pilot schools) and October 2012 (two additional schools). In total 25 interviews were completed with key stakeholders [principals, kitchen and garden specialists, teachers and volunteers]. The interview guide (Appendix One) focused on stakeholders' experiences and views on the Garden to Table programme.

Focus groups

In 2011 focus groups were conducted with children from Meadowbank, Peninsula and East Tamaki Primary schools and in 2012 focus groups with children were held at Dawson and Owairaka primary schools. In total seven focus groups involving 54 children were completed: two at Meadowbank School, two at Peninsula Primary School, one at East Tamaki School, one at Dawson School and one at Owairaka Primary School. The children were drawn from different Year 5 and 6 classes. The focus groups were conducted by two evaluators. The focus group interview guide (Appendix Two) focused on participants' experiences and views on the Garden to Table project.

Children's survey

A brief quantitative survey (Appendix Three) was conducted with children (n=530) in five primary schools: Meadowbank School (n=152), Peninsula Primary School (n=109), East Tamaki Primary School (n=64), Owairaka Primary School (n=95) and Dawson's Primary School (n=110). Children were also asked to do a drawing of their experience of the Garden to Table programme. The survey was not conducted at Moanataiari School due to the programme being put on hold as a result of arsenic in the soil and the gardens having to be reconstructed.

Document review

A review of information on the Garden to Table website and school websites was undertaken. Data accessed were used to describe programme implementation and outcomes.

3.5 Data analysis

The focus group discussions and interviews were recorded and transcribed. The transcripts were read several times and a thematic analysis was used to identify, analyse and report patterns and themes within the data (Braun & Clarke, 2006). After reading through the transcripts the lead evaluator developed an initial coding framework and additional themes were identified during the coding and writing up phases. Summaries of the themes are reported in the findings section and excerpts from the data are used to illustrate the findings.

The survey was entered into excel and analysed. The children's drawings were reviewed by the evaluators, coded and sorted into themes. Examples of these have been included in the findings section of this report.

3.6 Evaluation questions

- To what extent is the programme in keeping with the spirit of the Stephanie Alexander philosophy?
- What is the quality of the programme with regard to its content, design and implementation?
- To what extent has the programme been successful in achieving its intended outcomes?

4.0 Evaluation findings

The evaluation findings are presented as case studies. Descriptive facts are presented from interviews with key stakeholders and focus groups with children and these have been woven together to draw overall evaluative conclusions about the quality and success of the Garden to Table project.

4.1 Programme implementation, infrastructure and support

This section provides general information about programme implementation and infrastructure. More specific information is included in the case studies.

Programme implementation

The implementation model includes the establishment of a garden and a kitchen and the employment of garden and kitchen specialists. Students are rotated through the programme and experience it at least twice a school term. Generally, schools divide the classes into two groups of students, with one half working in the garden and the other in the kitchen preparing a meal to be shared with both groups. The classroom teacher moves between the groups during the sessions.

Programme infrastructure

There is a considerable infrastructure required in order to implement the Garden to Table programme in line with the Stephanie Alexander philosophy. Schools require support from their Boards of Trustees to implement the programme. A kitchen and a garden specialist are vital to programme development and implementation. Gardens need to be established to produce food to be harvested and prepared in the kitchen. A kitchen facility is required and as much as possible is to resemble a family kitchen environment with space for children and volunteers to sit and share food. However, lack of resourcing has meant that two of the pilot schools are preparing food in alternative facilities such as the art room and the school hall. Funding for the kitchen and garden specialists' time was provided by the Trust for a period to two years.

They provided funding for the kitchen specialist and the garden specialist and that was a nice start to get the programme going [Principal #1]

At the time of conducting key informant interviews the three pilot schools had reached the end of their two year time frame, which had funding implications. There was a commitment to carrying on with the programme and efforts were being made to access corporate funding and through fund raising by volunteers.

We'll obviously have to carry it on. That's going to be the hard part. To keep maintaining it because we see it as important to our school...our board at this stage has said uhm we like enrichment programmes which are part of [school] such as the Garden to Table [Principal #1]

The board are funding it and we have got some funding from a corporate and the volunteers are looking to fundraise a significant amount of money towards staff salaries next year. 'Cos that is the bulk of the money – it's the kitchen and garden salaries [Principal #2].

Support for the programme

The Trust has formed relationships with several companies to establish on-going support for programme implementation. A number of companies, described below, have supplied products.

Oakdale Organics offer the schools their excess seedlings every Friday. The garden specialists have established a roster and collect their share each week. This means schools have been able to ensure a constant supply of produce which is very important given some of their own crops had failed. As a result children have been able to try new varieties of food such as purple basil, Japanese greens and nigella.

Purebread Organics based in Paraparaumu supplies bread and pizza bases to schools. Robert Glensor, an advocate of teaching children to grow their own organic vegetables through his Purebread Organic Education Programme, visited two of the Garden to Table schools and gave them seeds. The Trust looks forward to a long association with this company.

Briscoes has donated crockery including plates, platters, cups and saucers that have helped make the kitchen classrooms a more home-like environment.

Fundraising

Fundraising activities are ongoing to enable more schools to participate in the Garden to Table programme. These activities have included Kiehls Day with the skincare company Kiehls holding a fundraising event at their flagship store inside Smith and Caughey's, Queen Street, Auckland. The event raised more than \$3000 for the Trust. Schools were also involved in fundraising to sustain the programme. Other fundraising activities include Feast for the Future which involves restaurants and cafes donating a portion of their takings on the day to Garden to Table.

Professional Development

The Trust had a trainer from Melbourne facilitate several professional development workshops for principals, teachers and kitchen and garden specialists. The sessions focused on curriculum

integration, programme implementation, sustainability and kitchen and garden lesson planning. It was the first time specialists from all the schools had come together which meant there was the opportunity to swap recipes and seeds and to establish working relationships. Participating schools kitchen and garden specialists also meet four times a year to share their experiences.

Note: Programme implementation will be described in more detail in each of the case studies.

Implementation and infrastructure challenges for schools

The three pilot schools reported experiencing some challenges with regard to the support received from the Trust and lack of clarity in relation to funding and sustainability. Principals were aware they were to be funded by the Trust for two years. However, they found the funding was inadequate if they were to implement the programme according to the Stephanie Alexander philosophy.

We had Stephanie Alexander coming over from Australia [and saying] “well you should be doing this and the kitchen is the most important part to get finished”. And we were just not in the position to go and do it because the amount of money coming from the Trust was inadequate to fund it. So of that over there they funded it was about nine thousand dollars which might have been twenty percent if you’re lucky. [Principal #1]

Two principals expressed concern about the lack of understanding of the ways schools operate within the Trust.

I don’t think the Trust was actually listening to schools and the issues that schools were facing...to put a kitchen in. It’s reliant on schools having spare space...and not all schools have spare space or space that they own...it’s Ministry space and yes you can build a space but if push comes to shove the Ministry says that’s ours. [Principal #1]

One principal recommended that that someone with school experience such as a retired principal would bring school-related skills to the board to ensure there was a clear understanding of school processes and Ministry requirements.

I think its key that they have a school person and you know whether they are a consultant to the Trust, but not actually on the Trust. I don’t mind...but you can’t dictate to schools when you haven’t got anybody who knows schools. How their operations grants work, how their funding works, how their structures have to work because that’s how we are required to do things by the Ministry. [Principal #2]

The same principal considered that the school would have more flexibility in the way in which they implemented the Garden to Table programme now that they were no longer a pilot school and were funding the programme with their own resources.

There have been challenges. One being that the Garden to Table Trust is not happy with us involving children of other age groups, the younger children. It’s supposed to be

exclusively for the older children but that's not the way we do it in our school...and I think every school adapts the programme to suit their needs in their school and that's something perhaps the Garden to Table Trust need to be a little more flexible on and really understand how schools operate...now that we are not getting funding from the Garden to Table Trust I think we have more of an opportunity to do that. We're funding it ourselves. [Principal #2]

Another principal expressed concerns about how the school would be able to sustain the programme once funding from the Trust ceased. The original motivation for joining the programme was that the Trust would provide funding to build a kitchen which was an offer the school wanted to take up. This had not happened and the principal was waiting for an architect to design mobile kitchen fittings.

It was an offer too good to refuse. The board and staff debated it for several weeks before we said yes but the original offer was that they [the Trust] would build a kitchen. They were very confident that they would have all the facilities built...there was going to be a kitchen down there and so much funding and all this that you could have said it would be irresponsible for me to say no...the board were worried about sustaining it, as I was. [Principal #3]

The same principal was in the process of applying for grants and was exploring ways to ensure the programme was able to continue beyond 2011.

I'm just chasing all those ideas around at the moment and I did have a benefactor say contact me, I've got a source of money for this for you so I'm waiting on a reply after I just made an application. [Principal #3]

In spite of these challenges the schools were very committed to the programme and viewed it as a valuable asset to the development of their students.

I think it's a fabulous programme and it has had lots of positive outcomes in lots of ways for the school. [Principal #2]

It's in the budget for next year [2012]...the kitchen is almost there...and at the moment it's in our priorities and as I say, going into the future it's dependent on where our board sees it as important. [Principal #1]

Life's all about making it part of the school and funding it through the teacher having part of the time out of the classroom. [Principal #3]

From the Trust's perspective, schools were made fully aware that funding was a contribution to cost and had agreed to a list of criteria before they signed up to the Garden to Table programme.

Concluding comments

The Trust has also provided professional development opportunities for school personnel and has linked with a number of providers who can support the programme with the provision of seeds, plants and kitchen equipment at no cost.

Schools have experienced some issues in working with the Trust which included lack of clarity about funding entitlements, lack of understanding about the way in which schools operate and particularly how schools' operations grants from the Ministry of Education work and concerns around being able to sustain the programme beyond the pilot phase.

Trust personnel reported that sustainability beyond the two year period had been discussed and that "schools knew right from the start they would have to find the means to carry on".

4.2 Case studies

The case studies that follow provide more in-depth information about the implementation of the Garden to Table programme in five schools and documents outcomes achieved. A brief overview is provided for the subscription school.

School demographics

| School | School roll | Decile rating | Ethnicity | Gender composition |
|-----------------|-------------|---------------|--|-----------------------|
| East Tamaki | 282 | 1 | Maori 28%; Samoan 35%; Cook Island Maori 21%; Tongan 12%; Niuean 3%; other 1% | Girls 46% Boys 54% |
| Meadowbank | 723 | 10 | NZ European/Pakeha 64%; Maori 4%; Chinese 7%; Indian 1%; Samoan 1%; other European 9%; other Asian 5%; other Pacific 1%; other 8% | Girls 46% Boys 54% |
| Peninsula | 381 | 5 | New Zealand European/Pakeha 46%; Maori 27%; Samoan 5%; Cook Island Maori 3%; Niuean 3%; Tongan 3%; other Pacific 3%; Indian 4%; African 2%; Asian 2%; other 2% | Girls 53% Boys 47% |
| Dawson | 444 | 1 | Maori 25%; Samoan 30%; Cook Island Maori 22%; Tongan 17%; Niuean 4%; other 2% | Girls 47% Boys 53% |
| Owairaka School | 344 | 2 | Samoan 22%; other ethnic groups 20%; Maori 13%; NZ European/Pakeha 12%; Tongan 11%; Indian 7%; South East Asian 4%; Niuean 3%; Chinese | Girls 48% Boys 52% |

| | | | | |
|--|--|--|---------------------------------------|--|
| | | | 3%; other Asian 3%; Cook Island 1% | |
|--|--|--|---------------------------------------|--|

East Tamaki School



School Description

East Tamaki School, in Otara, Auckland, is a Year 1 to 6 school that caters for the cultural diversity of its student population. The school roll is predominantly Pacific, at 73%, and 25% of the students are Māori. The school is a Health Promoting School which means students are taught how to make healthy choices in what they eat, how they choose to interact with others and how they deal with challenges and new situations. The health promotion focus can be seen in the:

- Provision of Subway on Fridays, which is a healthy alternative to takeaway food
- Garden to Table programme, which gives children knowledge about growing and preparing healthy fruit and vegetables
- Values programme, which focuses on our attitudes and behaviour towards others
- Kapai Gold Award system, which encourages and values positive choices made by the children
- Caught Being Active Award system, which encourages and values positive physical activity choices made by the children.

The school is an Enviroschool. One of the aims is for the students to become more aware of the environment around them and how to look after it. The school was very fortunate to have a large worm farm donated by Mercury Energy. The school's fruit and vegetable scraps along with other 'worm friendly' material is put into the worm farm. The worms turn this waste into compost which is used to feed the gardens. In the future the school will be involved in more recycling of paper and plastic which will help with the school and community environment.

The Garden to Table Programme

What is the quality of the programme with regard to its content, design and delivery?

East Tamaki Primary School was the first school to implement the programme as they had existing vegetable gardens. In 2011 the size of the vegetable garden was increased.

This increase has allowed us to offer this amazing experience to more of our students. The students continue to enjoy planting, harvesting, cooking and eating many of the fruits and vegetables we grow in our gardens. They are becoming experts at identifying different types of vegetables which they may not have been exposed to at home and really appreciate the opportunity to try something new. Children willingly give up their lunchtime to sow seeds, thin out seedlings, weed the vegetable garden or just wander through to see what is growing [website quote].

Enthusiasm for and engagement in the programme

There is considerable passion for the programme at East Tamaki School by the principal, kitchen and garden specialists, teachers and children. Focus group participants found the programme fun and were enthusiastic about what they were learning.

Child 1: You learn to do things and learn heaps of recipes and how to grow garden and stuff

Interviewer: Cool. Your turn

Child 2: Garden to Table is fun and you get to learn how to use cutlery, like sharp knives

Interviewer: Right.

Child 3: It's fun 'cos you get to um do cooking and learn how to cook if you don't know how to cook.

The kitchen specialist spoke very highly of the programme and her enthusiasm was obvious in the way she worked with the children and volunteers.

Oh, it's fabulous. It's a fabulous programme. I can't speak highly enough of the programme. You know you just look at the children. You know it brings so much joy to them and as a learning process I think the beauty of it is that you can bring so many things into the learning process.

A classroom teacher considered the programme was "brilliant" for many reasons which included enhancing children's knowledge about nutrition and cooking, settling the behaviour of more challenging students and enhancing their general classroom learning. The principal spoke of the programme as well integrated and accepted by teachers, children and the community.

The teachers absolutely love it, getting buy in from the teachers was simply not a problem...they would all like to participate, but it is focused on the year five and six children...the children absolutely love it. Particularly the boys. The girls do love it but the

boys love it even more because its hands on learning. It's not watching a DVD on how to plant a seed or the seasons.

Programme Implementation

The garden

The garden is well-established with prolific crops of seasonal vegetables. The garden specialist's role is varied and the children work in the gardens on Tuesdays and Wednesdays. The specialist decides in advance what each group of children will be doing in the garden and organises volunteers to be there to help. Once the children arrive in the garden they have a ten minute lesson in the garden classroom to relate what they will be doing to the curriculum. After the lesson, the children are divided into groups which can vary from two children up to about four or five depending on how many children and volunteers are present. One volunteer works with a group of children and each group is given a job to do.

Pulling something out that's finished, replanting. You know, compost and planting. I give them instructions on how to do it and explain why we're doing what we're doing. Or it may be something like worm tea. Like getting the worm tea from the worm farm and feeding plants with worm tea or watering or making compost...Sometimes one group may do more than one job. [Garden specialist]

Children work on different tasks each time they come to the garden to ensure they are learning a variety of skills.

So it's different **each** time. It's different for every group and every time. So the children are hopefully not getting bored. There's a wide variety [Garden specialist].

Focus group participants appreciated being able to experience a range of activities and this made the programme interesting for them.

Child: It's fun and enjoyable

Interviewer: Yeah. So tell us more about fun and enjoyable

Child: Like you learn more recipes and learn about what plants don't go together

Interviewer: Yeah

Child: I think Garden to Table is interesting 'cos you get help from the volunteers and stuff

Interviewer: What sort of stuff do you help them do?

Child: Um like get compost and cook and uhm, harvest and stuff.

Once children have completed the session, they are responsible for tidying up equipment and thanking the volunteers. They then go to the kitchen to join the other half of the class to share the food that the kitchen children have prepared.

Maintaining a flourishing garden

Garden specialist

The garden specialist is paid for 15 hours a week and has worked in her role for just over two years. In order to maintain the garden component of the programme, the specialist considered she spent considerably more time than she was paid.

I think I do a lot more. Maybe when it's wet and rainy in the middle of winter I might not. I probably only do 15 hours then but this time of year [summer] I'm doing a lot more.

While most of the crops were grown at school and many from seed, the specialist also supplemented the garden and kitchen with crops she grew at home. The reason for doing this was that she was able to water them during the dry months.

Some things I choose to grow at home myself. Like we do grow a lot, the children grow a lot here. I like to teach them to grow things from seed and save seeds...I'll grow at home purely because I can be there to water them...I've actually just brought in a huge container of tomatoes and capsicums that I grew at home for the last few months...but no-one's asked me to, I could go somewhere and buy them but I don't want to do that.

Equipment

Garden tools have been donated to the programme by a local business who has also supplied seeds. Other funding for gardening supplies was generated from the garden by selling worm tea and crops. The volunteers were particularly generous in purchasing products from the garden.

I don't spend a lot and I am able to generate money to pay for what I need but then if it is something big like a delivery of mulch or compost then that's paid for by money that has been fundraised for Garden to Table in general...although this year, like the last six months at least, I've managed to produce enough money to buy everything. We haven't had to dip in to the school's funds at all.

Volunteers

Approximately 20 volunteers support the gardening component of the programme with many coming on a weekly basis. Most of the volunteers are from outside of the school's area and reside in more affluent areas of Auckland. They are well resourced and are able to engage in substantial fundraising events for the programme to generate sufficient income to cover the salaries of the

garden and kitchen specialists for the future. One event planned by the volunteers for the beginning of 2012 was a garden party to which parents, local businesses and corporate people were invited. Businesses were invited to sponsor children at \$150.00 per year which is approximately what it costs to put a child through the programme. The event was also considered to be a way that parents and grandparents could see the garden.

There are a few parent volunteers who assist on a regular basis, however the garden specialist reported that it was difficult to get parents involved mainly due to them working or having preschool children. According to the principal, it could also be due to parents considering school personnel as the “experts” and therefore, while interested in their children’s education, they tended to be more “hands-off”. The evaluators observed parent volunteers tending to “stand back” compared with the volunteers from outside of the community.

One approach used to engage parents with the programme was to hold a parents day during which they came and worked in the garden and the kitchen to experience what the children experience.

It was about March [2011], we had a parent’s day. So instead of the children doing gardening we invited parents to come along and do the gardening or the kitchen, they could choose. We did get some people. I think I had about five ladies in the garden and I think there were about four or five in the kitchen...so it did work well. They really enjoyed it...there were about three who are really keen volunteers and they came to that day. But they were already volunteering and it continued to keep coming. [Garden specialist]



Children working with one of the volunteers

The Kitchen

The kitchen has been purpose built for the programme. It is well-equipped with plenty of space for the preparation and sharing of food and has an extremely enthusiastic kitchen specialist.

It’s a fabulous programme. This is now my end of second year working this programme and I can’t speak highly enough of the programme.

The kitchen specialist is paid for 12 hours a week but also gave additional time to ensure the programme was well resourced and running efficiently.

I put in a lot more in the sense that when I started there was no framework, no resources as such. I have to do everything, you know recipes and a lot more goes on in the background like some of the community build up...ringing in these volunteers.

Running the kitchen

The kitchen is equipped with ovens, sink benches and tables for food preparation. The pantry, fridge and freezer are stocked with basic supplies. The kitchen specialist works closely with the garden specialist to plan sessions and each cooking session the food prepared is based on what crops are ready for harvesting. The children are organised into three groups and each group has a different task or recipe to make. For example, one group will prepare a fresh green salad and a dressing, while the others will make savoury and sweet dishes. The children are all involved in preparation, cooking and cleaning up the dishes. Food waste is taken back to the garden to be composted. Tables are then set and the children who have prepared the food sit down to eat with the rest of their class [those who have been working in the garden], the specialist, their teacher and the volunteers. The volunteers are thanked at the end of the session.

Interviewer: So is your class cooking now

Child: Yeah, Yeah, I think so

Interviewer: Will you be able to go over there and eat something?

Child: Yeh

Child: 'Cos when some people do the garden and when they finish doing the garden they have to come to the kitchen and set the table up and sit at the table

Interviewer: So everyone eats together from the whole class

Child: Yeah, yes

Interviewer: That's really good

Child: But before we eat we always do the prayer and thank you

Interviewer: Oh good

Child: And say thank you to the volunteers.



Children sharing food

Volunteers

The kitchen component of the programme also has substantial support from volunteers and this has continued to increase as the programme has developed.

But as you can see we have a huge team of volunteers. I mean each table we have probably six children per table, so about fifteen kids. I find the ideal is to have two volunteers per table with three tables which means that you're having one adult to three children...I find that lovely.[Kitchen specialist]

The kitchen specialist also spoke of the value of having volunteers working with the children.

You can bring in that extra dimension of not just cooking but that wonderful adult, child relationship... It's a lovely rapport. Yes, very loving, loving rapport, it's just so fabulous.

With most of the volunteers coming from outside of the local community and from more affluent suburbs, the kitchen specialist considered this dimension enhanced the programme as the children were exposed to wider experiences and conversation.

I mean, these volunteers they come from everywhere. They travel widely, you know. Some of them are foreigners and you know some of the students go "wow, are you from America?" It's like what a big world it is, it opens their world...so there's all these things that you can actually plug into the programme...it's not written about.

Early Successes

To what extent has the programme been successful in achieving its intended outcomes?

There is evidence that the following short-term outcomes have been achieved: knowledge and skills in gardening; knowledge and skills in cooking; food literacy; willingness of children to try new foods;

a convivial atmosphere where children share food; and communication about Garden to Table between school and community. There is also evidence that there is progress towards achieving the following medium-term outcomes: life skills in the areas of cooking and gardening; social connections through working together to grow, prepare and share food; and Garden to Table is supported by the community.

Short-term Outcomes

Knowledge and skills in gardening

The garden component of the programme develops children's gardening skills from soil preparation through to harvesting the crops.

They [children] have more knowledge of what they're doing in the garden. Yeh, things like how to make compost, how to grow something from seed, when you're planting how to prepare the soil, how to dig it over and what to put in it [Kitchen specialist].

The children were able to articulate what plants needed to grow and how plants are protected from pests.

Interviewer: What do plants need to grow?

Child: Compost, soil, water and sun and worm tea and air

Interviewer: What's worm tea?

Child: It's when you put lots of scraps in and you get tiger worms and turn the scraps and they eat all the scraps and then all the scraps goes into thing and then it goes into a little bucket and then it becomes worm tea

Interviewer: And how do we protect plants from pests? You've talked about one, which is the birds getting the strawberries. What's another one?

Child: We have a little apple tree and moths like to lay eggs. So we have this little house, the green house and there's a few and they can smell something in that little house, green house and then they go along there and when they land on it they can't move

Interviewer: They stick to it

Child: Mm. So then they can't eat the apples

Knowledge and skills in cooking

The programme has exposed children to a variety of interesting ways of preparing different foods harvested. They had used apples from the garden to make apple crumble, beetroot to make beetroot fritters, vegetable salad and vegetable fritters.

Interviewer: What happens to the plants when they are ready to harvest?

Child: We pull out the soil and the dirt and we take them to the kitchen and start cooking them and eat them.

Interviewer: So what recipes have you made?

Child: We've made poppy seed loaf

Interviewer: What else have you made?

Child: Apple crumble

Interviewer: And did you use apples from the garden?

Child: Yes

Child: And we made beetroot pancakes

Interviewer: Beetroot pancakes. How did you make those?

Child: We got beetroots from our house garden and we harvested and then we took them to the kitchen and [name] our kitchen lady, who's the boss, she melted the beetroot and then we cooked them like pancakes and then we ate them.

Children and volunteers were also learning to prepare food in different ways to what they were used to doing at home.

We taught the children how to roast vegetables, roast carrots, pumpkin and at that time we had some mother helpers and the mothers came to me and says, gosh, we have never roasted vegetables. They boil, they steam, they deep fry [kitchen specialist].

Children were also proficient in the use of a wide range of kitchen equipment, particularly the use of sharp knives.

Child: Garden to Table is fun and you get to learn how to use cutlery, like sharp knives.

Interviewer: Right

Child: It's fun 'cos you get to um do cooking and learn how to cook if you don't know how to cook.

Food literacy

Children could recall a wide variety of fruit and vegetables they had grown which included cabbages, carrots, potatoes, beetroot, bananas, apples, herbs, strawberries, yellow beans, watermelon, tomatoes, leeks, pumpkin, onions, purple carrots and kumaras. Vegetables that the children had not tried before were leeks, some herbs, beetroot, pumpkin, spring onions and yellow beans.

A classroom teacher had observed the ways in which children were developing food literacy through preparing and cooking food in different ways.

It's enhanced the children's learning about nutritious food. They now know it can be used not just as meat, potatoes and vegetable but it can be used in baking or you can eat it raw with a pesto or some sort of dip. They've just got so many ideas of how to cook really good food. [Teacher]

The principal also noted that food literacy was reinforced in classroom teaching through ensuring the Garden to Table programme linked as much as possible to the curriculum. For example, with the Rugby World Cup in 2011, students were learning about different countries. Therefore in the kitchen the focus was to prepare food to represent some of those countries.

We tell the garden and kitchen coordinator what our programme is for the year and they try and tailor what they're doing as much as possible...so the programme doesn't sit totally outside our classroom teaching...last term it was the Rugby World Cup...we looked at different countries. So they have an Italian Day for example and they made pasta and Italian food. So that tied in.

Willingness of children to try new foods

It was clear that there were differences in children's willingness to try new foods from the start of the programme and two years later. Said the kitchen specialist:

They come in the new ones to Garden to Table, you know. Those who are not, who haven't been exposed to Garden to Table, they will play with green, anything that's green, you know. They kind of flick it from one side of the plate to another...for the senior kids who are moving to intermediate year and so they are at the end of two years, they eat it with relish. They eat the greens with relish.

Interviewer: I saw them eating silverbeet today.

You saw it, good, aye.

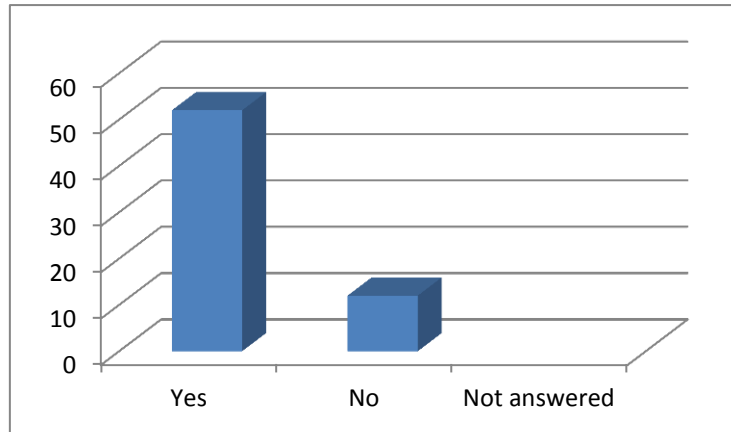
The garden specialist also observed similar changes

I was sitting next to a boy who didn't want to try the salad. He didn't want to try it and a couple of us convinced him to have one tiny taste and then he liked it and ate a pile of

salad. So you see that sort of thing all the time...lots of people were reluctant to try things and how they are happy to eat all sorts of things.

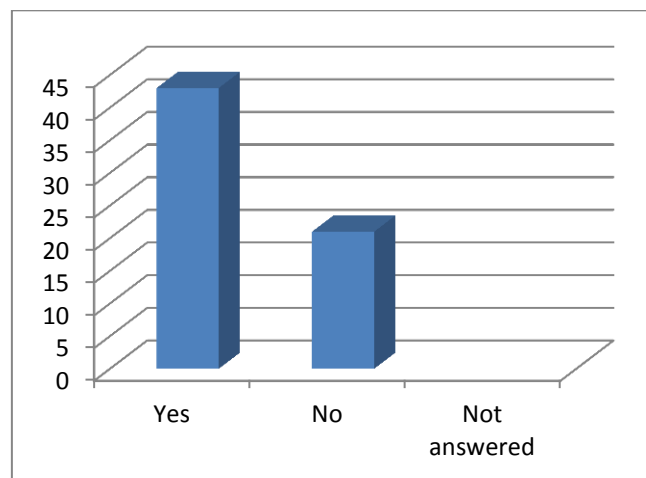
Children also spoke of their experience of trying foods they had not tasted prior to participating in the programme. Survey findings also indicated children's willingness to try new foods and whether they would eat foods they thought they did not like. Most children reported they were willing to try new foods (n=52) and 12 were not willing to try new foods (Figure 3).

Figure 3: Willingness to try new foods



Two-thirds of children reported they were willing to eat foods they thought they did not like (n=43) since participating in the programme and a third reported they were not willing to eat foods they thought they did not like (n=21) (Figure 4).

Figure 4: Willingness to eat foods you thought you didn't like



A convivial atmosphere where children prepare and share food

The evaluators observed the kitchen as a bustling place with children all working cooperatively together to prepare food. They all followed instructions and were willing to carry out a range of tasks including doing dishes and table setting. There were warm relationships with volunteers and the kitchen specialist and lively conversation at the table while eating food. Children passed food to each other and were polite in the portions they selected to ensure there was sufficient food for everyone.

I think because they interact together, you know, in preparation of the food, even in the garden. You know, they're all working together digging or watering or preparing food in the kitchen. They talk nicely to each other. The children seem to be closer and I think it's because of the interaction that's going on and our volunteers, I see the love they have for the students. [Teacher]

Communication about Garden to Table between school and community

The Garden to Table programme has a high profile in the community. Communication occurs as a result of parents volunteering and discussions among parents who are members of the parent teachers association.

Mothers of our students come in and it's great because they take the recipes home and they try them at home...and you see the kids come to school with different things that they've tried out in the kitchen here so they talk about it...we've got a parent teachers association. It's a group and they often talk about trying it [recipe] at home...They're all talking about the different recipes they've tried in the kitchen. So it's gone home so it's been great. [Teacher]

Children have also been given seeds to grow at home which has encouraged them to establish their own gardens. A competition was held whereby children who entered took photographs or created artwork to show what they had grown at home. The principal described how the school's garden had influenced a community member who lived near the school to develop his own garden.

Out in the community there is two doors along one of our neighbours, his back yard was an absolute tip and he's cleaned it up to some extent and is growing vegetables now as a result of seeing what we were growing over the fence.

Interviewer: Fantastic

So he, and we'd swap vegetables so that's been a positive. He's also involved in the local East Tamaki garden, you know, community garden.

The programme has considerable recognition through media attention, newsletters and various publications. Said the principal:

There's been lots of media. In the local media and in national publications and also we have put it in our newsletter telling them which class is in the garden that week so that if they want to come along and look then they could do that...Also at the meet the teacher session at the beginning of the year.

Medium-term Outcomes

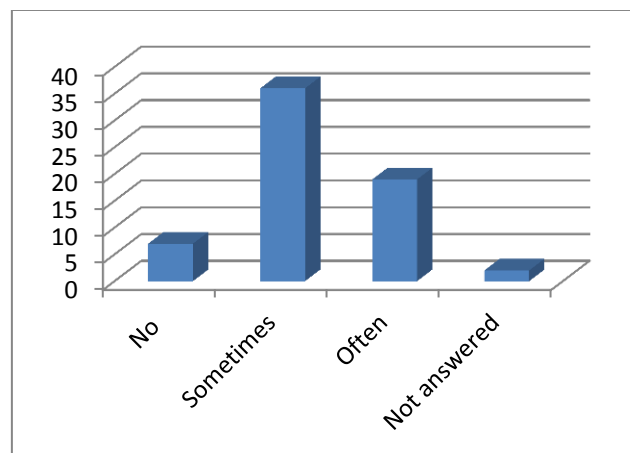
Life skills in the areas of cooking and gardening

Children were using the skills learnt in the kitchen and garden at home. They were preparing breakfast, lunches and dinners. Some were confident to do this on their own and others had supervision from their parents.

I'll get my dad or my mum to watch me learn how to cook just in case I might burn something or not.
(child)

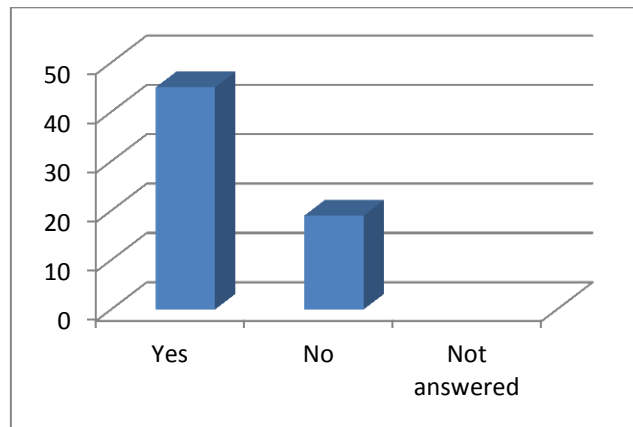
Most children reported they either cooked at home sometimes (n=36) or often (n=19) and seven reported they did not cook at home. Two did not respond to this question. (Figure 5)

Figure 5: Number of children who cook at home



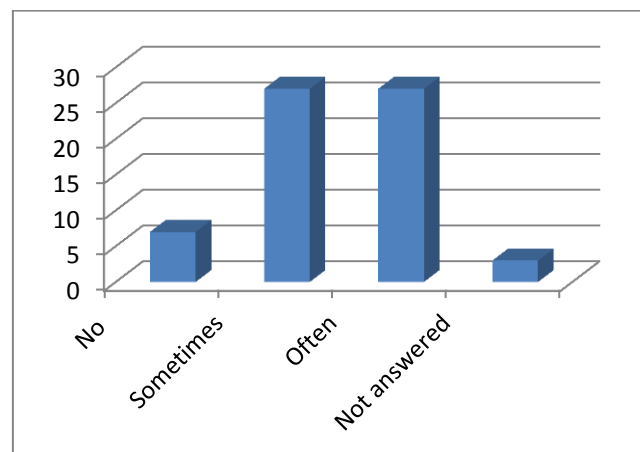
Children were also collecting recipes and helping to shop for food. Of the 64 children surveyed, 45 reported they collected recipes and 19 did not collect recipes. (Figure 6)

Figure 6: Collect recipes



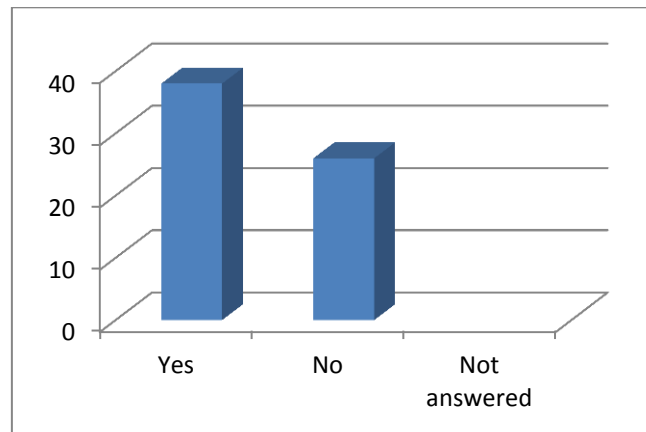
Most children were helping to shop for food either often (n= 27) or sometimes (n=27). Only a few (n=7) were not involved in shopping for food. (Figure 7)

Figure 7: Children helping shop for food



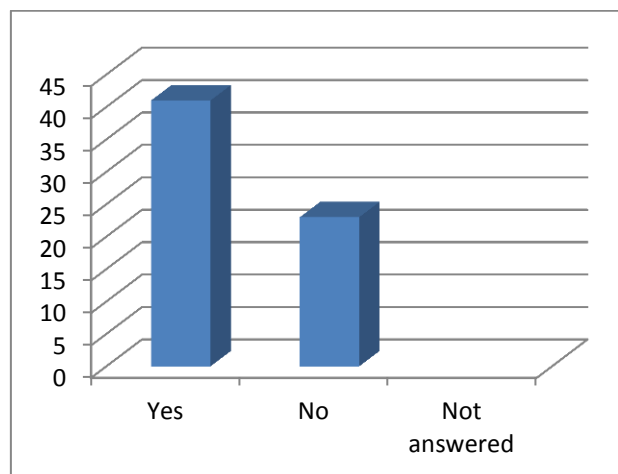
Children surveyed were asked if they had made a meal at home that they had made at school. Thirty-eight reported Yes and 26 reported No. (Figure 8)

Figure 8: Make something at home that you have made at school



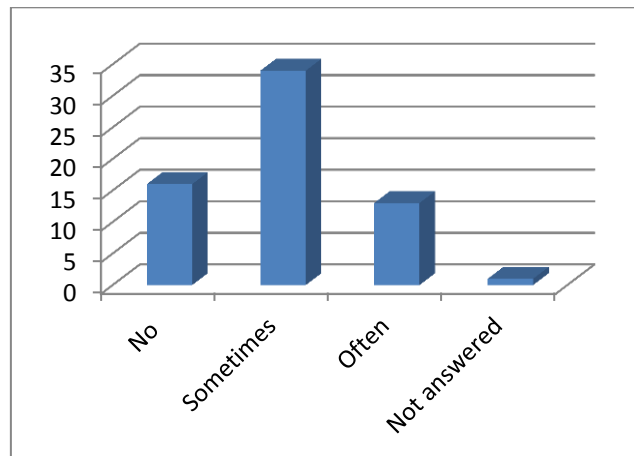
Two-thirds of children (n=41) reported they had made a garden at home or somewhere outside of the school and a third had not made a garden outside of school (n=23). (Figure 9)

Figure 9: Children make a garden at home or somewhere outside of school



Over two-thirds of children were engaged in gardening at home either sometimes (n=34) or often (n=13). Sixteen children reported they did not garden at home. (Figure 10)

Figure 10: Children garden at home



Children were also asked if they would use the gardening and cooking skills they had learnt in the future. Most children reported they would use the gardening skills (n=56) and cooking skills (n=54) in the future. A few reported they would not use gardening skills (n=8) and cooking skills (n=10) in the future. (Figures 11 and 12)

Figure 11: Use gardening skills learnt in the future

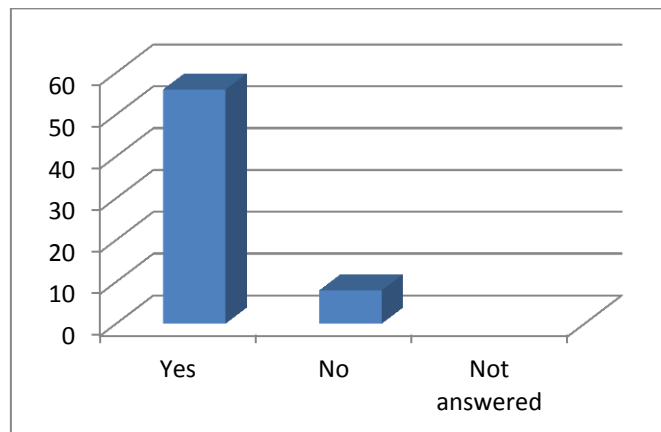
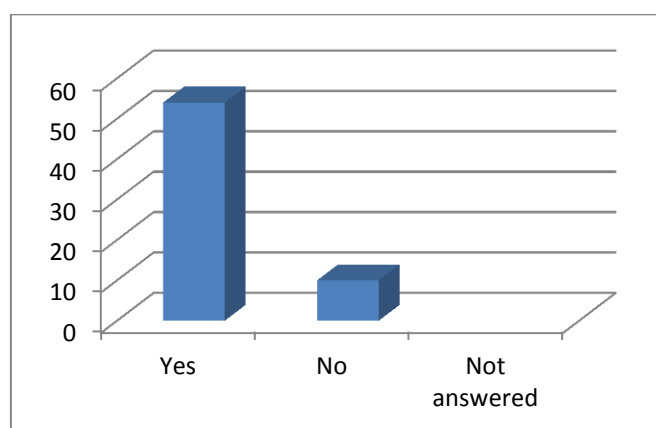


Figure 12: Use cooking skills in the future



Social connections and social skills through working together to grow, prepare and share food

Children commented that they had made new friends through their participation in the programme. They felt they all worked together well by “taking turns and sharing stuff” and “working as a team”. They did not experience any putdowns and considered all the children were well-behaved. Adults involved in the programme also reported that students were gaining social skills, were interacting positively with each other and the volunteers.

I think they get a lot of social skills out of the programme. Lots of social skills. Things like please and thank you, you know talking to different adults...talking with volunteers, it's pretty valuable as well I think [Garden specialist].

I think the interaction between the volunteers is very positive...being able to interact with them and form relationships in really positive ways. I think that's been a really good outcome for the school [Principal].

A teacher had observed changes in children's behaviour and attributed this to the influence of the Garden to Table programme.

I think behaviour wise because I've been at the school for five going on six years and there's just been a huge change in the children's behaviour and I think also with their learning as well. It's calmed them down and we all know what vegetables do for students anyway...they interact really well, you know with each other...they've learnt how to use manners, asking properly for food or saying excuse me and those sorts of things [Teacher]

Garden to Table is supported by the community.

The programme is linked to a number of local businesses, charities and corporates who have provided funding or assisted by supplying seeds and equipment.

We have some support from charities, you know, who give out grants. We've had a reasonable amount of support there. The corporate came through a business partnership that we've got...they've given us a reasonable amount of funding for next year and are prepared to do that for the next three years. They're also prepared to help us with seeds and seedlings.

Concluding Comments

Findings are positive. It is clear the programme is well-designed, with appropriate, relevant content that links to the school's formal curriculum and is well-implemented. The principal, kitchen and garden specialists, teachers, parents and volunteers are very supportive and enthusiastic about the programme and what it is achieving. Findings indicate children enjoy the programme, they are engaged in the learning activities offered, they have knowledge about gardening and cooking through teacher instruction and hands on experiential learning activities, and they show willingness to try new foods which has been a noticeable change from the start of the programme. The kitchen and garden are bustling environments and the atmosphere for gardening, food preparation and the sharing of food is convivial.

Students have formed social connections with their peers and with the group of regular volunteers who support the programme and they have developed social skills particularly in relation to sharing food and working cooperatively in the kitchen and garden environments. Key informants spoke of the children being more settled since they had been taking part in the programme.

The school regularly communicates with the parent community through newsletters as well as providing opportunities for parents to experience the Garden to Table programme. While there have been some challenges to engage parent volunteers, those that do support the programme are transferring what they experience to their home environments. There is a strong group of regular volunteers from more affluent areas outside of the local community and while this was viewed as a strength as children are exposed to broader life experiences, it could also be seen as a challenge for parent volunteers. The programme is also supported by local businesses and a corporate business is sponsoring the programme for three years [2012 onwards]. Said the principal:

If we didn't have the Garden to Table Programme I just think there'd be a huge hole in our school. It is something I totally believe in and I'm not someone to do something for two years and in two years' time all the gardens are defunct and wasn't that a good programme but we've moved on. I don't think it's that sort of programme. It's something that you have to see as a long term thing and we're certainly committed to it.

Meadowbank School



School Description

Meadowbank School is a large (680+ students) state contributing primary school (Years 1-6) serving Meadowbank, Remuera and St Johns communities. The community is relatively privileged socio-economically and the school is classified as Decile 10 by the Ministry of Education. The ethnic composition of the school is New Zealand European (80%), Asian (10%), Pacific Island and Maori (8%). The school is on a split site. The Waiatarua Road (Years 3-6) and Kelvin Road (Years 1-2) sites are separated by a bushed gully and stream which are utilised in science and environmental studies. The sites are physically linked by a pathway and bridge as well as electronically. This necessitates two playgrounds and two staffrooms. Approximately 50 staff are employed including specialist computer, music, physical education/sports, special needs and environmental education teachers.

The Garden to Table Programme

What is the quality of the programme with regard to its content, design and delivery?

Meadowbank School was the second school to become involved in the pilot programme. The programme has dovetailed with the school's existing environmental programmes.

For several years the school has looked at how environmental principles can be integrated into what we do every day. (Associate Principal)

Enthusiasm for and engagement in the programme

All stakeholders expressed their enthusiasm for the programme and the way in which children were engaged and involved.

We think it is really good. The kids really get involved, just really enjoy being in the garden and the kitchen and love watching things grow. [Tteacher]

Children used the words “fun” and “cool” to describe their experience and enjoyed being able to learn two things at the same time – gardening and cooking.

Child: It’s really fun because we like we harvest the fruits and vegetables from the garden that we’ve grown ourselves and like, we planted them and looked after them and things and then we get to eat them after we’ve done it. And like, we cook it and everything as well. So it’s like learning how to harvest and then cook.

Interviewer: Mm, yeah

Child: And at the end we get to taste it which is the fun part.

Children also spoke of enjoying the interactive nature of the programme and the way in which learning occurred for them.

Child: Everybody loves to do Garden to Table because it’s not just working inside your book or on the computer. You’re actually hands on interactive. It’s really cool. It’s probably the most interactive thing in this school.

Interviewer: Right

Child: ‘Cos you’re like doing stuff instead

Child: My highlight would be Garden to Table

Child: “Cos like, it’s probably like, the most interactive thing because you’re actually doing stuff instead of just sitting around and watching people do it for you.

Child: Yeah, You’re like it’s work but, and you’re learning stuff but you don’t really realise it because you’re having so much fun while you’re doing it.

The kitchen specialist spoke of how children’s enthusiasm for the programme extended beyond school to their homes.

I think it is really good...I would have to look at it from a parent’s point of view and say I would probably love my children to learning some skills in the garden and kitchen and bringing that enthusiasm home, which a lot of parents in this school are finding.

Children’s enthusiasm for gardening extended beyond their scheduled sessions to volunteering to work in the garden at lunchtime.

We have had children who come at lunchtime to work and that will be a small group...they are making a cover to go over the strawberries...and now they are working out how to finish the job and they have decided that they want to work through lunchtime finishing it. [Garden specialist]

Programme implementation

The garden

The garden is well-established and is a feature of the school's landscape with gardens on the terraces of the swimming pool area, along the driveway and outside various classrooms.



The gardening component of the programme is diverse and the specialist has introduced deeper aspects in relation to the place that gardening has in people's lives.

What I am trying to show the children that it is not just gardening, cause people think oh gardening you walk around sniffing the flowers and planting things but growing your food is far more than that and it brings in aspects of your culture, your understanding of the world, where food has come from, sugar cane from New Guinea to begin with and it was taken all around the world and children can't imagine life where you didn't have sugar and so we bring in a bit of history and what people use before well they were able to use honey.

The garden specialist also brought in experts to enhance children's learning such as a beekeeper, a landscape gardener and a mycologist [fungus expert].

We have had a beekeeper, we have had landscape gardeners, we have had a mycologist in. We found that we had a big crop of fungus growing on trees in the school gully so we got a mycologist in to say 100% yes that is safe to eat cause I have done research and checked it out...He came in and talked to the children, took them for a ramble, the classes all through the gully and showed them all the different sorts [of fungus].

She also considered there were other spinoffs to bringing in experts such as stimulating children's interest beyond cooking and gardening to expanding their ideas about future career and work options.

Maintaining a flourishing garden

Garden specialist

The garden specialist is very committed to the programme and puts in many more hours than the 15 hours for which she is paid. On the days she is running the programme she spends the whole day at school and works through lunchtime to enable children to assist her if they want to. Many crops are grown from seed and children are actively involved in planting these.

Equipment

Equipment is sourced through donations and the garden specialist was constantly sourcing materials [often discarded by community members] to build garden structures.

The children used an umbrella frame [to make a cover for strawberries] that I found in a skip and so they have taken all the little bits that don't need to be on it and now they are working out how to finish the job...we made a huge fruit cage...and you could see it was a bit of engineering as well because they [children] said now we have got all these bits of pipes that we have to use to support the netting.

Volunteers

The garden is well supported by volunteers including retired community members, parents and relatives. Community volunteers have been accessed through shoulder tapping by the garden specialist.

I have got a couple of retired gentlemen that help me. People I have stuck my head over the fence to my neighbours and said can you come and help with the programme and they sort of tootled down and it means a lot to them and it means a lot to the children because they may never get a chance to do something with a grandparent...we have aunties and we have had students who come in and help so we have a lot of mothers and fathers who come...it is nice having people from the surrounding community.

The garden specialist was exploring other ways to access volunteer support which included approaching the local gardening society and contacting local retirement villages.

The kitchen

Initially the hall kitchen and foyer was used for the programme. Children prepared food and then cleared the tables for serving and eating. The school now has a purpose build kitchen for the project.

Oh it has been a long time coming but eventually once we had all the building issues sorted out...so once it was a designated place that the school owned, it wasn't owned by the Ministry so then through the year we applied for grants and in Term 2 the money sort of came together to start and its all finished bar we are just waiting for the ovens. [(Teacher)]



Children preparing food

Running the kitchen

The kitchen specialist commented that the kitchen runs smoothly due to good systems, support from teachers and volunteers and the children working cooperatively with each other.

The teachers do make a difference, they get quite proficient in the kitchen and are very good at taking a group and we have volunteers like that as well...the groups when they are cooking settle into quite a nice little routine.

In order to assist with costs parents are asked to contribute \$5.00 per term for ingredients.

Equipment

The school now has a purpose built kitchen for the programme which was equipped through donations from parents and local businesses.

Parents donate equipment, you know, frying pans, knives, things they don't want but perhaps things that have gone out of fashion, tablecloths and vases which is part of the Garden to Table look...a [business] sponsored the oven so it was unbelievably generous donation of three ovens, a dishwashing and washing machine and we have a community meeting recently in which one or two businesses donated around \$100.

The kitchen specialist spent a considerable amount of additional time trying to source products and found this a pressure.

Sometimes I feel there is quite a lot of pressure almost to be trying to source things and products... unlike normal teachers who don't have to source, do all that ringing up and trying to see whether people will supply things.

Volunteers

Volunteers for the programme were parents, grandparents and people from the local community. The school was proactive in liaising with parents about the programme and as a result there was no problem accessing volunteers.

We work a sort of letter system at the beginning of each term about what is going on and asking for parents to commit to certain times to work...we just try and push even if you can commit to one term or even one year, because the kids love it when their parents come in.

Extension of the kitchen

The wood fired pizza oven

As a result of establishing an edible garden outside their classroom, the teacher and students of Room 14 set themselves the challenge to build a wood fired pizza oven. The teacher searched the Internet and local library for blueprints and worked out how the oven could be built. A grant of \$1000 was received from Unisys Kidz Connect. The students were all involved in building the oven which involved laying foundations, building the brick base and the dome. In the process the students acquired knowledge and skills such as understanding the importance of a solid foundation, how to smooth out plaster and how to insulate to conserve heat. Once the oven was completed the students prepared the pizzas and other dishes for their shared meal.

We set up tables in our hall. We all made the dough and while it was rising we split into three groups. Each group made a different part of the meal including three large green salads (produce from our garden) with different dressings, chocolate caramel bananas which were to be cooked in the embers and homemade lemonade. Then we dressed the pizzas and cooked them in the oven. When they were ready we all sat down around the tables and ate our feast together. Some of the kids said it as the best day of their life. [Teacher]



Children with pizzas from the pizza oven

Later, a family night was organised to enable students to celebrate their success with all those who had contributed.

It was a great evening. I found it quite magical watching the fire being lit and the dads cooking the pizzas, which the kids had filled, on the smoking embers. And this was very fast food. [Tteacher]

Early Successes

To what extent has the programme been successful in achieving its intended outcomes?

There is evidence that the following short-term outcomes have been achieved: knowledge and skills in gardening; knowledge and skills in cooking; food literacy; willingness of children to try new foods; a convivial atmosphere where children share food; and communication about Garden to Table between school and community. There is also evidence that progress is being made towards achieving the following medium-term outcomes: life skills in the areas of cooking and gardening; social connections through working together to grow, prepare and share food; Garden to Table is supported by the community; and expanded learning opportunities and application of learning for children.

Short-term Outcomes

Knowledge and skills in gardening

After one term of Garden to Table, children reported learning a variety of skills which included learning how to look after plants and how to harvest them. They were very articulate in their knowledge of what plants needed to enable them to grow.

Interviewer: So what do plants need to grow?

Child: Um, soil, water, sun, love, sunlight, love. We put mulch around it.

Interviewer: Mulch. An why do you put mulch around it?

Child: Um because, to keep the moisture under, to keep the moisture in

Child: Summer, moist

Child: Winter, to keep them warm

Child: An the moisture comes, like it's hay or um

Child: Sheep pellets

Child: Sheep poop [laughs]

Children also knew how to protect plants from pests and were involved in recycling materials to create various devices to control them.

Interviewer: How do you protect them from pests?

Child: Occasionally there's this yellow sticky stuff that you put next to it and the bugs like the colour so they stick to it.

Interviewer: Okay

Child: And some smell too

Child: Yeah we made things like sprite cans and stuff. We made little fizz. They make a big noise and so they scare all the ...

Child: White butterflies

Child: Yeah, so we were recycling and we got the cans and cut flowers. There was like these little pieces of white paper that we made like these little white butterflies to out trick the other white butterflies over a cabbage so they wouldn't eat it.

Children had grown a wide variety of fruit and vegetables including beetroot, silverbeet, strawberries, peas, tomatoes, avocados, beans, carrots, oranges, borage, nasturtiums, broad beans, apples, blackberries and Florence fennel.

Table 4: Examples gardening skills

Gardening

I have learned how to pick potatoes. Dig a bit and just pick one or two.
Just pick as many herbs as you need. You don't need to pick the whole plant.
I have learned when to harvest kumara - when the blanket of leaves dies.
I have learned that you shake off the soil when you pick a plant.
I have learned about looking after the garden, how to water and how to get rid of stink bugs.
You get rid of stink bugs by stepping on them.
Don't spray poisons, use organic sprays.
I have learned to grow vegetables like strawberries.



Children with crops they have harvested

Knowledge and skills in cooking

In the kitchen children have learned how to use knives and have developed a range of different food preparation skills.

Child: Beware of knives on your feet

Child: Yeah and on your fingers

Child: If you have a knife you have to hold it down

Child: Wear shoes that don't have gaping holes in them

Child: And also you've got to be careful by the stove

Interviewer: So you learn a lot about safety

Table 5: : Examples of cooking skills

Cooking

We have learned how to chop vegetables like spring onions, carrots and cabbage. Put your fingers on top to keep it steady. Keep your fingers away from the knife and use the 'claw' grip.

You need to wash your hands before you start work in the kitchen.

I have learned to make dressing.

I have learned to try new foods, like beetroot hummus!

I have learned how to cook a stir fry - chop the vegetables into little pieces.

You need to wash rice before you cook it.

I have learned how to carry a knife safely.

I have learned how to rinse and wash dishes.

I know which food scraps you can feed to the worms.

Food literacy

Children were very articulate when describing different foods and it was clear the programme had contributed to their food literacy.

Child: Last time we were cooking we used calendula petals to make the risotto.

Interviewer: Oh wow. Did you think of using that before?

Child: No. It was just an experiment. It turned out pretty good.

Child: Last time, my mum comes to Garden to Table sometimes, and we made a salad out of beetroot, raisins, sunflower seeds, pumpkin seeds

Child: Carrot

Child: And carrot. And I didn't like beetroot at all and we put dressing on top of it that we made with vinegar and oil and some honey and it was actually really nice.

Children's food literacy also developed through learning to read recipes and seed packets. One example was a boy who had no confidence in reading and was experiencing difficulties with his learning.

A lot of parents have said that the children are reading more. One friend in my son's class was completely switched off reading and couldn't see the point and after he had done Garden to Table he said "Oh now I want to read the recipes and I want to read the seed packet" and his parents wrote a letter to the Principal about it because they were so overjoyed and overwhelmed that suddenly he could see there was a reason for reading and they hadn't realised before that he couldn't see a practical outcome. [Garden specialist]

Willingness of children to try new foods

Children reported having tried a wide range of new foods and were surprised that they enjoyed how they tasted. Different foods included beetroot prepared in a variety of ways from raw to cooked, blue cheese, cabbage, anchovies, artichokes, radishes and chick peas.

Child: Once we made a soup and they knew that the kids wouldn't like the blue cheese so they didn't talk about the blue cheese. It was blue cheese and cabbage. And I really enjoyed it and then my mum went home and told me that it was blue cheese and cabbage and I went "ooh" but I still loved it.

Child: I didn't even like blue cheese, 'til now

Child: I hated broccoli but now I eat it lots

Child: We made a broccoli forest and it was like, it was like a rice space and it had little broccoli trees. And it was all sorts of different broccoli.

Child: We made a salad out of ear fungus – mushroom

Interviewer: Yeah

Child: Oh yeah

Child: So we've eaten fungus before and we went into the gully and picked wood ear fungi

Child: Yeah, off a dead berry

Child: You also call it jelly fungi

Child: Yeah it came off a dead tree

Child: 'Cos with the beetroot cake I was really surprised that I actually liked it because I don't actually like beetroot

Interviewer: Right, yeah

Child: I never knew you could eat nasturtiums

Interviewer: Oh, didn't you

Child: Yeah and when I found out that borage was inside the garden I was happy, I love borage

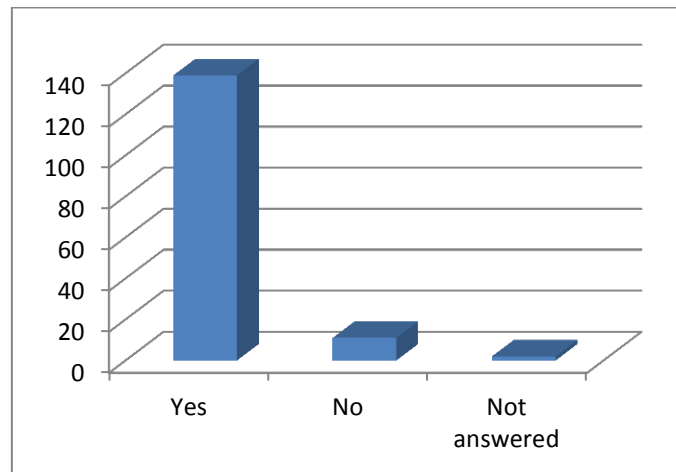
Teachers and specialists also considered children were much more willing to try new foods given there were children who at the beginning of the year who cried at the thought of trying a new food.

The parents are saying that they [children] are a lot more eager to try new foods and less reticent. There was one little boy sitting here today and he sort of counted down 5, 4,3,2,1 I am going to try beetroot now. [Teacher]

We have got one boy who had done the programme for two years and now his younger brother has started and he said to me I am not going to be like [brother]. I am not going to cry about trying every vegetable and he went home and said to his mother I have been trying all the vegetables and his mother said “I can’t believe it, he has never eaten vegetables”. [Garden specialist]

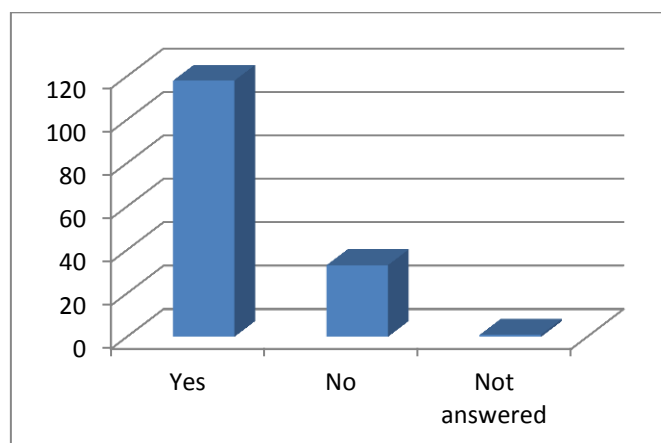
Survey findings also indicated children’s willingness to try new foods and whether they would eat foods they thought they did not like. Most children reported they were willing to try new foods (n=139) and 11 were not willing to try new foods. Two children did not answer this question. (Figure 13)

Figure 13: Willingness to try new foods



Most children (n=118) reported they would eat foods they thought they did not like since participating in the programme and 33 reported they were not willing to eat foods they thought they did not like. (Figure 14)

Figure 14: Willingness to eat foods children thought they didn't like



A convivial atmosphere where children share food

The hall foyer is set up with tables where the children share the food they have prepared. The children set the tables and all sit together. Food is shared politely and the children obviously enjoy the experience of eating together.



Children seated and ready to eat

Communication about Garden to Table between school and community

Each class involved in the programme has their own wikipage devoted to sharing their Garden to Table experiences by posting recipes, photographs, videos and comments. Focus group participants reported they and their parents were accessing recipes prepared at school to cook at home.

We have a wikispace for the Garden to Table and it's got all the recipes on it

Sometimes I show my mum what I've done at Garden to Table when she's not here [volunteering] and I show her what to make and she'll print off the recipe and make it.

There is also a considerable amount of public relations with the programme portrayed in local papers, an active website and school events which have resulted in community awareness.

There is a lot of PR, there is a lot in the papers about it, a lot of people in the community talk about it. We've got people saying and they have suggested to people that it is a good school to be at because there are a diversity of programmes including Garden to Table and how worthwhile it is...We had a picnic that was the community evening when we introduced the programmes and that was our last big push to get fundraising as well as awareness that we were building the classroom or adapting the classroom to be a technology and kitchen area.

Medium-term Outcomes

Life skills in the areas of cooking and gardening

There is evidence that the skills learned through the programme are being translated to the home environment.

The number of children that come and say we have just started a garden now, we have just got herbs or now we are going to have vegetables and we are planting this and I am trying this and they are so excited and then they say they are doing cooking at home...they look on the school wiki to get the recipe.

Children also spoke of using the skills they had learnt at school to participate in cooking and gardening activities at home.

Child: I've been helping my mum fry things

Child: I've just been grating

Child: I can make pancakes all by myself because I've done them at school

Interviewer: So you're allowed to now that you've done it at school

Child: I sometimes offer to help mum and then 'cos I used to hate helping my mum cook

Child: My mum's happy that I'm doing Garden to Table now because we have a bach but there's no dishwasher so I agree to do the dishes now

Child: Sometimes I beg my parents to let us do certain dishes.

Children reported enjoying participating in home gardening activities and several had grandparents with gardens.

Interviewer: Do you help in the vegetable garden at home?

Child: Yes

Child: Sometimes

Child: Not really

Child: I grow my own flowers. I have my own little garden

Child: We've got baby carrots and stuff

Child: We're growing corn

Children also spoke of their parents becoming more interested in establishing gardens as a result of seeing what they were doing in the programme.

My mum wasn't really interested...she didn't have very big ones and now its garden maintenance every day.

Class Garden to Table Webpages

The following webpages illustrate the ways in which children have developed life skills in cooking and gardening.

Welcome to Room 7's Garden to Table Page

What is your favourite thing about Garden to Table?

Learning different things every time - Katie

Learning how to make recipes and cook the food for your family - Jayden

Learning new skills in cooking and gardening - Raiha

I like cooking because you get to have fun and learn at the same time - Hunter

Learning how to cook new recipes - Alessandro

What are some of the things you learn during gardening sessions?

Learning stuff about nature - Katie

Learning how the plants need the sun and water and also how to harvest them - Jayden

How to plant and harvest foods - Raiha

I learn how deep the hole needs to be for each plant and how we tell the difference between weeds and plants - Hunter

How to harvest new things like potatoes - Alessandro

What are some of the things you learn during cooking sessions?

How to chop things safely and how to weigh things correctly - Katie

That you need to measure things properly to make the recipe correctly - Jayden

How to hold a knife properly - Raiha

I learn lots of new recipes and know what different foods smell like - Hunter

How to carry knives and measure food - Alessandro

How does what you learn at Garden to Table impact on what you do at home?

It helps me garden and cook more - Katie

I now cook and garden more at home - Jayden

It makes me want to do more cooking at home - Raiha

I now care about the environment more and do more gardening and cooking - Hunter

I now make more food at home - Alessandro

Describe Garden to Table...



Room 8's Garden to Table Page



My favourite thing about Garden to Table is following given instructions and making something as a team - Honoka

During garden sessions we learn what the best times to plant seeds are, how to recognise different types of plants and how far apart to plant different plants - Hamish

I now go home and garden and try out some of the things that Mrs Master's teaches us in the garden. My mum and I also try out scrumptious and delicious recipes that Mrs Sylvester has made with us at school - Zoe

My favourite thing about Garden to Table is helping out in the kitchen and try new things - Olivia

I now cook every Sunday night and I didn't do this before i started Garden to Table - Sarah-Mei

Welcome to Room 9's Garden to Table Page



What is your favourite thing about Garden to Table?

I like cooking and trying different types of food and also the fruits and veges we grow are really different - Claire

Finding out different techniques for cutting fruit and vegetables - Finian

Cooking because we get to learn new things and cook delicious food so that we can be good when we grow up - Lilian

I really enjoying planting things in the garden because I don't often get to plant things at home - Tom

You get to learn new interesting stuff - Myu

What are some of the things you learn during gardening sessions?

We learn what different plants are - Claire

To identify things that are ok to eat - Finian

We learn about soil and how to add nutrients by adding sheep pellets - Lilian

How to identify different plants - Tom

For gardening we learn about planting and pulling out weeds - Myu

What are some of the things you learn during cooking sessions?

How to cook different recipes - Claire

How to make fresh pasta - Finian

How to use different things to measure - Lilian

How to chop things correctly - Tom

What ingredients to put in each recipe - Myu

How does what you learn at Garden to Table impact on what you do at home?

It really helps us to be a better Enviro School - Claire

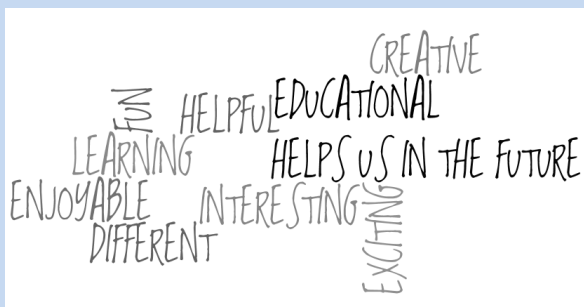
I am now able to cook food by myself - Finian

I love baking and making desserts and every weekend I back something - Lilian

It gives me the ability to cook really well at home with my Mum - Tom

You can make new food at home and plant things to put in the food - Myu

Describe Garden to Table...



Welcome to Room 26's Garden to Table Page

What is your favourite thing about Garden to Table?

Learning new recipes to make at home and working together with my classmates. In gardening I like learning about interesting foods e.g., Wood Ear Fungi. - Pearl

Everything! It doesn't even matter if it is raining - Olivia

Being able to try new foods like Wood Ear Fungi and Beetroot Cake - Dominic

Cooking fresh produce out of the garden and working together as a team - Sophie

Finding out new recipes and making them - Nathan

What are some of the things you learn during gardening sessions?

Learning how to plant strange things and how to look after them - Pearl

That there is such a thing as Wood Ear Fungi - Olivia

Learning about new things and getting vegetables planted. We also learn when the best time to plant things is - Dominic

Learning about what vegetables are ripe or poisonous and also how to pull out weeds properly - Sophie

What we can use to make mulch and learning about different fruits and vegetables - Nathan

What are some of the things you learn during cooking sessions?

How to use different vegetables in cooking and make them really 'delish' - Pearl

To use different spices in our cooking - Olivia

That it is good to try new foods and also to not eat the chocolate before it goes into the cake - Dominic

Not to keep getting the mixture out of the bowl and to always let other people help - Sophie

How to make healthy but yummy food - Nathan

How does what you learn at Garden to Table impact on what you do at home?

I use some of the recipes at home and I now use a compost bin at home - Pearl

I now do lots more baking - Olivia

I now cook more at home and try to make more homemade meals rather than buying takeaways - Dominic

My brother and I now cook for our family every Tuesday night...which is great! - Sophie

I now make things like Lemon Curd and Spring Rolls at home- Nathan

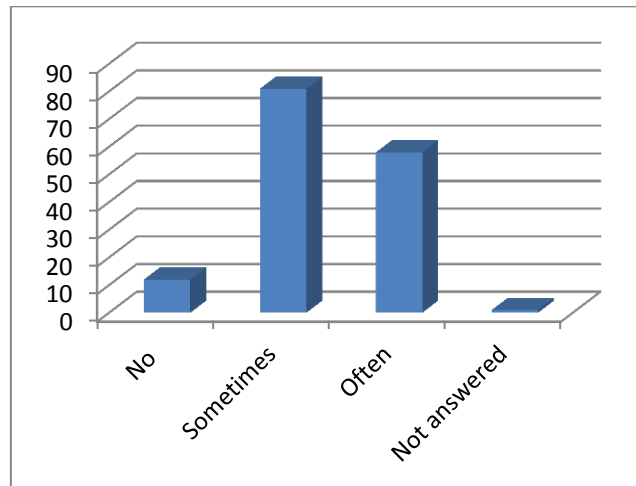
Describe Garden to Table...



Focus groups with children and interviews with key stakeholders concurred with the webpage information that children were learning life skills in relation to cooking and gardening. Survey findings also indicated that children were using the skills learnt in the Garden to Table programme.

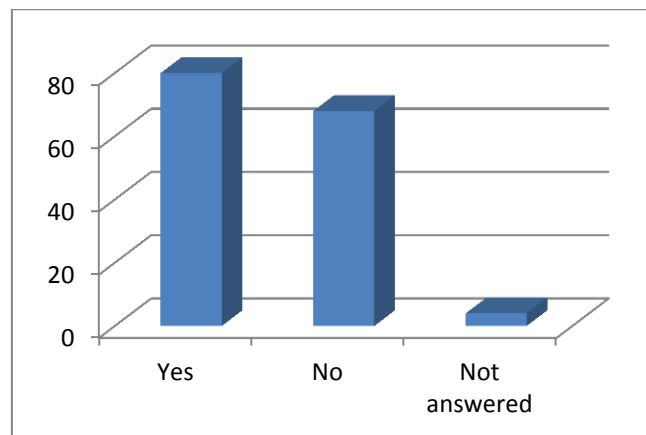
Most children reported they either cooked at home sometimes (n=81) or often (n=58) and 12 reported they did not cook at home. One child did not respond to this question. (Figure 15)

Figure 15: Cook at home



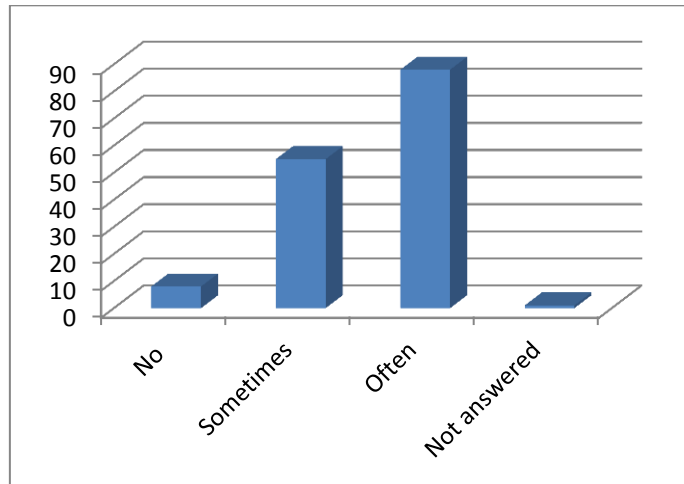
Children were also collecting recipes and helping to shop for food. Of the 152 children surveyed, 80 reported they collected recipes and 68 did not collect recipes. Four children did not answer this question. (Figure 16)

Figure 16: Collect recipes



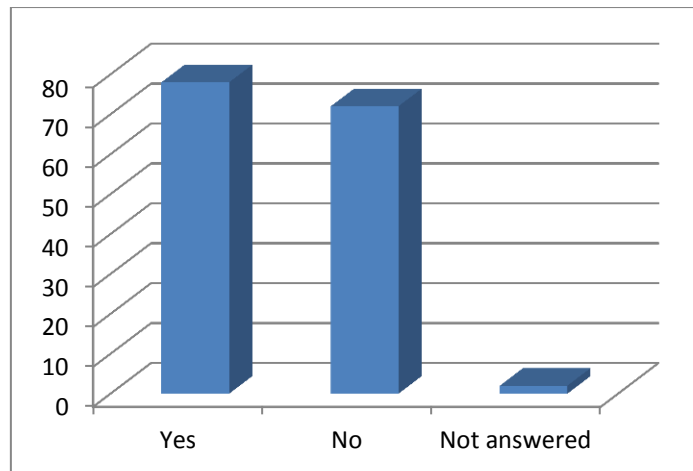
Most children were helping to shop for food either often (n=88) or sometimes (n=55). Only a few (n=8) were not involved in shopping for food. One child did not answer this question. (Figure 17)

Figure 17: Help shop for food



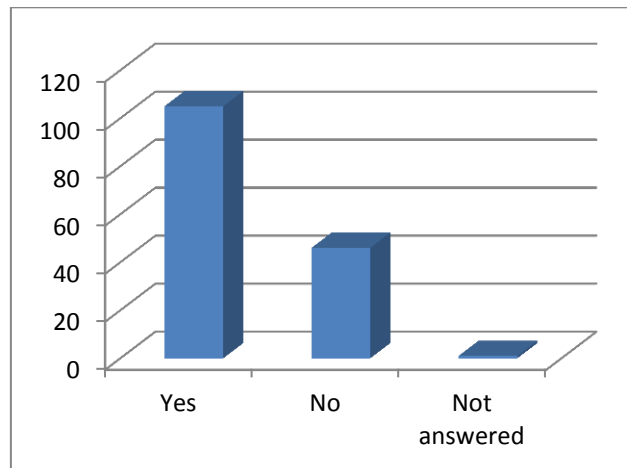
Children were asked if they had made a meal at home that they had made at school. Approximately half (n=78) reported Yes and 72 reported No. Two children did not respond to this question. (Figure 18)

Figure 18: Make a meal or food at home that you have made at school



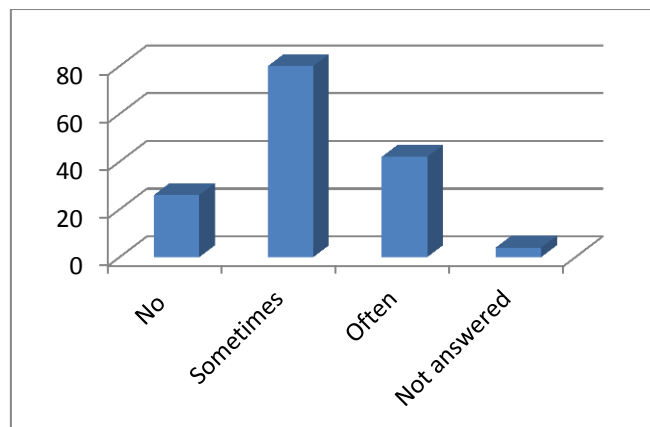
Over two-thirds (n=105) of children reported they had made a garden at home or somewhere outside of the school and a third (n=46) had not made a garden outside of school. (Figure 19)

Figure 19: Make a garden at home or somewhere outside of school



Over two-thirds of children were engaged in gardening at home either sometimes (n=80) or often (n=42). Forty-two children reported they did not garden at home. Four children did not answer this question. (Figure 20)

Figure 20: Garden at home



Children were also asked if they would use the gardening and cooking skills they had learnt in the future. Most children reported they would use gardening skills (n=127) and cooking skills (n=137) in the future. A few reported they would not use gardening skills (n=20) and cooking skills (n=12) in the future. (Figures 21 and 22)

Figure 21: Use gardening skills in the future

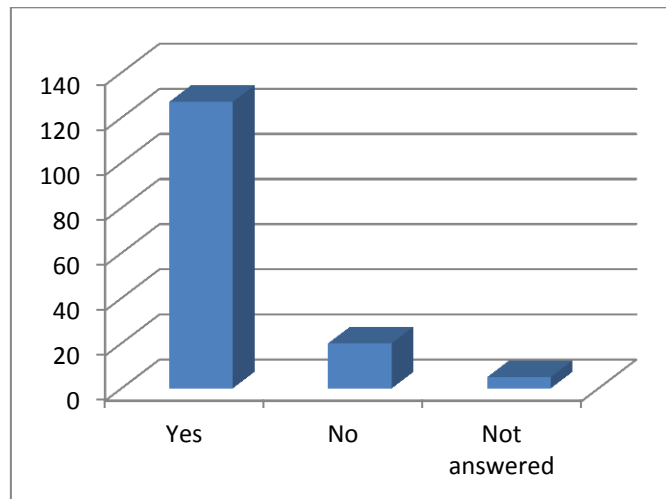
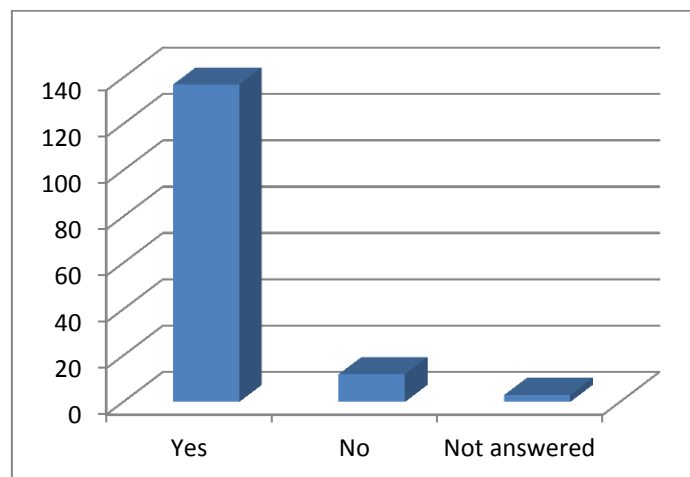


Figure 22: Use cooking skills in the future



Social connections through working together to grow prepare and share food

Children enjoyed working together in groups in the kitchen and garden. They were divided into six groups with half the groups in the garden and half in the kitchen. At the end of the session, all the groups come together and are allocated clearing up jobs. Children reported they made new friends and that participating in the programme had helped them form closer relationships with their peers.

Child: I only came from [other school] so I've made a lot of friends

Child: Yeah, I was her friend first and so she came into our group

Interviewer: yeah, 'cos of Garden to Table

Child: We did start getting along a bit better at Garden to Table

Child: I've make new friends in my class because in my class I didn't really have any of my good friends but I started making a lot more friends

Child: At Garden to Table we have to learn to bond

Child: I've been doing it through Garden to Table

The garden specialist considered that children with social problems benefitted from the programme.

For example:

I have got one particular boy who has got problems with autism, he has social problems as well and has lashed out a lot in the past but he is one of my right hand men in the garden and people say can I come and work with[name] whereas before they were actually scared to be around him and it gives him an outlet...so I think it's giving him a chance to do a bit of watering and digging around and so on in the garden and working with other people. [Garden specialist]

Garden to Table is supported by the community

There is considerable support for the programme within the local community. Word-of-mouth and publicity about the programme has raised its profile and as a result attracted community volunteers and resources and funding support from local businesses and parents.

I just live up the hill and people see me here watering first thing in the morning in the summer and things like that so that engages people. We have had people drop off seeds and plants and so on because they want to help out because they are so pleased that something like this is happening in schools. [Garden specialist].

Expanded learning opportunities and application of learning for children

The Garden to Table programme is well-linked to the formal curriculum and there are ample opportunities for deeper learning experiences for children.

There is a huge opportunity to fit more and more with the curriculum. Recently one of the teachers in one of the classrooms, I walked past and she was talking about wanting to do some drawing techniques with the children and get them working with pastels and I said "Why don't you grab some nasturtiums"...and bringing in the mathematical side and I think it is that whole lateral thinking once you start measuring out grids and we have done a square box garden, square foot garden area and talking to children about the dimensions of plants, how many can fit into the prescribed box. [Garden specialist]

A teacher also considered the programme had really strong links to the curriculum. In the classroom children were doing a unit of work focusing on the living world and what plants need to grow so they are gaining scientific knowledge that links to what they are learning in the garden. They also completed a unit of work on globalisation.

So we are focusing on food, sort of like the global impact of food from other countries and what we eat so we do try and really incorporate it so it is meaningful.

Concluding comments

There is evidence that the programme is thriving. A new kitchen has been established which will enhance programme delivery. A group of regular volunteers support the programme and the school is proactive in accessing this support. Curriculum integration is seen as important and the garden and kitchen specialists tailor sessions to ensure opportunities for deeper learning.

Children have developed gardening and cooking skills and are willing to try new foods. The programme extends to the home environment where children have established gardens, participate in gardening and are cooking recipes they have made at school. The school website is very active and the recipes are available to be downloaded at home. The children work together cooperatively in the cooking and gardening sessions and make new friends in the process. There is a strong commitment from school management to continue the programme and ensure it is sustainable in the future. Both the kitchen and garden specialists spoke of the work involved being more than the time they were paid for and a considerable amount of this time was spent accessing additional resources for the programme.

The programme offers expanded opportunities for deeper learning through links to the curriculum and the involvement of a range of experts to talk to the children. Said the garden specialist:

For me it is actually helping them learn a life skill and also get in touch with down to earth things that sometimes get forgotten in this increasingly technological world.

Peninsula Primary School



School Description

Peninsula Primary is a Decile 5 school with a diverse population including NZ European/Pākeha 42%, Māori 27%, Samoan 8%, Tongan 4%, Niuean 3%, Cook Island 3% and other 13%. The school operates as a nurturing, child-centred learning community that genuinely welcomes parents and maintains open and consultative relationships with them. The school's curriculum includes a variety of extra and co-curricular opportunities and children's work is valued and reflected in displays of their artwork around the school. The school provides support and challenges for children who have particular learning needs or abilities.

The Garden to Table Programme

The Garden to Table programme began in February 2010. The aim of the programme is to provide children with an opportunity to grow, harvest, prepare and share fresh seasonal produce. At present the year 5 and 6 children have two sessions each term. They have 45 minutes in the schools Enviro vegetable garden and 45 minutes in the kitchen. In the Enviro garden the children do a variety of tasks such as turning compost, mulching, fertilising, planting, sowing seeds, digging compost into soil and learning about basic garden science. In the kitchen the children do cooking with the produce that has been grown in the garden. They learn cooking techniques like chopping, mixing, peeling, stirring, simmering and basic food science. As the programme develops the school hopes all children will be able to participate.

The garden

The school initially established four raised garden beds which enabled students to learn about the steps involved in setting up and sustaining a garden.

Our students have learned about garden set-up and worm farms and composts have been started. Sustainability has become an important concept. [Principal]



Students and volunteers working in the garden

Further work has been undertaken to expand the garden. Students were involved in a competition to design the garden. UNITEC landscape design students then selected aspects of the students' designs to incorporate into an overall design for the garden. A central focus of the garden is an octopus with tentacles forming pathways through the garden. One of the local banks provided staff volunteers to help with the building of the garden. At the end of 2011 the new garden was well underway.

The kitchen

Currently the kitchen is operating in the school's art room. There are two ovens, two sinks and benches for food preparation. The school acknowledges that this facility is not ideal but at this stage does not have the funding to develop a full kitchen facility.

Enthusiasm for and engagement in the programme

There is a high level of enthusiasm for the Garden to Table programme from staff, students and volunteers. Students were particularly enthusiastic about the practicality and usefulness of the skills they were learning. Staff including the principal thought the programme was valuable and positively contributed to children's learning development. They hoped there would be future benefits for the children as a result of participating in the programme too.

...apart from enjoying what they're doing they are actually learning lots of ... gardening and in the kitchen they're getting to do things. So hopefully these things will transfer to their home environment and then later on as adults maybe they will get a better appreciation for what the garden can produce. Yeah. I think that's a positive thing.. we hope that it'll have an impact on their dietary habits and things like that. [Teacher]

The kitchen and garden coordinators and staff thought the programme was fun and educational and was providing children with a range of skills that were relevant and important. The programme complimented other initiatives and learning occurring in the school.

... it's making the kids aware of lots of things ... because we're an Enviroschool...It's impact is actually becoming .. greater because they're becoming aware of sustainability and things like that [and] they're enjoying it. [Teacher]

The Principal of Peninsula Primary could display the gardens to parents of potential pupils when speaking to them about the range of opportunities the school provides. The Garden to Table programme and gardens were popular with prospective parents.

And every time [the Principal] brings a parent down there and shows them the gardens [the] new parents ...go 'Wow'. [Previous Garden Specialist].

Volunteers also thought highly of the programme, believing it to be extremely worthwhile, educational, and beneficial now and into the children's future. They enjoyed the children and the opportunity to participate.

Oh they're just learning so much about food and tasting different things, learning to appreciate different types of food. [and] how it grows....They're just learning heaps. And I think they're learning to work together as well....[for] when they go in the workplace ...They are learning to work as a team and cooperate with each other

The volunteer hoped that the programme, or at least the gardening segment, would be expanded to include the junior school.

I love it. I think it's a fantastic idea. But I'd like to see it right across the board. My little grandson loves gardening and ... I'd like him to learn more at school about gardening ... So

I think it would be good if the younger children could be involved as well. But of course that's more people isn't it.... They wouldn't have to do the cooking at this stage. But just in the garden.... 'Cos they love it. They love doing it.

Programme implementation

The garden

There are two gardens, one that has been more recently established. The garden was created with the assistance of bank volunteers. The garden coordinator puts effort into succession planning in the garden to ensure year round availability of harvestable produce. Most classes working in the garden are split into smaller groups with each group working collaboratively on specific tasks. While some parts of the garden teaching module is theoretical, most of the gardening time is spent hands on in the garden as this is more popular with the children. Theoretical aspects of the science of gardening are often taught through practical application or alongside the 'doing' of gardening.

The garden specialist enjoys teaching the gardening segment of the programme but feels more than the allocated time is needed to prepare and plan for the sessions, particularly in the limited sized garden that the school has and with the number of children in the class.

I needed time to sort of plan...out sessions... and I needed a bigger garden because if [its] only myself and ten kids...Then I've got to have sort of multi-tasks and I need to plan more of what I need to do...But ah, you know, it'll work.

Maintaining a flourishing garden

Garden specialist

It took some time for the garden specialist to plan the garden in a way that ensured there was continuity in harvestable vegetables throughout the year. However, the garden is now at a point where it is producing surplus vegetables and extra vegetables are sometimes given to children to take home or sold to staff or the public. There have been a few incidences of community members helping themselves to vegetables in the garden without permission, however this was an infrequent occurrence and as the garden was producing a surplus this did not detract from the programme or impact negatively on the garden. The garden specialist has been active in obtaining plants and equipment at a discounted rate, however contacting, liaising and communicating with community organisations and businesses who may be able to provide potential support can be time consuming and detract from the enjoyable specialist work of teaching in the garden.

The garden specialist is passionate about gardens in schools and thought there should be one at every school as they provide so many opportunities to teach and learn.

I think it's something that all schools should have now. I know that they can't but ... if you go into a place like Mega10 ...they've got little gardens there that are just like little boxes....And with good soil you can grow some vegetables and I think that's what we've got to try and get the kids to think about.

Equipment

There have been donations from the community and council for some of the necessary equipment for the garden such as compost and trees and some half barrels were also donated. The garden specialists and school have been active in contacting potential sources for cheap or free seedlings from local shops, and the school has received discounts for specific equipment. Seedlings have also been donated from parents who own a nursery and an organic seedling company. The garden specialist thought a greenhouse or glasshouse may be useful additional equipment for the garden and that the garden could do with being larger. The safe use of equipment was an important aspect of the gardening module.

Volunteers

There has been difficulty in sourcing volunteers for the garden although a range of gardening groups have been approached and the school has been very active in its attempts to publicise the need for volunteers and encourage parental and wider community engagement. Part of the difficulty may be that parents work once their children start school and that potential garden volunteers are working in other gardens in the community.

It's a funny thing, we have a lot of parents and grandparents and so on in and out of the school but to get volunteers for this programme it hasn't been that easy.....It's a funny thing just trying to get them to commit. I think ... they're already committed all over the place...[Principal]

Unfortunately the numbers of volunteers have diminished over the course of the programme.

At the beginning we did have more volunteers but people have started jobs and things like that [we are] putting it in the newsletter trying to get more Mothers and Grandmothers or Uncles or Aunties or something [but] nowadays people as soon as their children are all at school they get a part time job or something...[Kitchen specialist]

Staff are active in seeking out new potential sources of volunteers.

... one avenue I've started to explore ... is Volunteer Auckland. We've joined them and .. that's how I got the other garden built. [Principal]

The garden was established through the use of volunteers from a bank for which the school was very grateful, however one participant thought that the use of local community and parent volunteers working alongside bank volunteers may have been beneficial.

... to have a working bee when we first set up that garden... would have been quite good but instead we had the Bank volunteers come in and sort of had like a working bee ... I suppose I kind of thought that we should have had more of a Community working bee but then maybe we wouldn't have got much response I don't know...[Kitchen specialist]

The kitchen

As previously mentioned, the school is currently using the art room for the cooking component of the programme and this is not ideal. While functional, using the art room as the kitchen has been less than optimal for the school and the Principal was exploring funding sources for a purpose built kitchen.

Running the kitchen

The kitchen is equipped with an oven that was donated from Fisher and Paykel via the Garden to Table Trust. Art tables are used for food preparation, there is a sink to do dishes .. One interviewee believed at least one more oven and dishwasher was promised to the school by the Garden to Table Trust.

It is in the clean up after meals that the shortcomings of the lack of equipment becomes most apparent and at times the dishwashing duties extend to such a point that it cuts into the lunch time period.

Yeah well just the frustration that you know we have been going for two years now and you know we really would have liked to have got more of the kitchen established. Just to be able to make the program function better I think you know so the children get more than one turn and just that you can get through the program more quickly and they are not having to spend their lunchtime still doing dishes and things you know - proper sinks ... it would all be a lot more efficient [Kitchen specialist]

The small size of the kitchen restricts how many children can cook or be in the kitchen at any given time which impacts on how many children can participate in the programme and how frequently children would be in the garden and kitchen.

[Pupils only get to attend] once a term because we haven't got a very big kitchen we have to split the class in half which means out of five classrooms it makes 10 sessions and there are 10 weeks in the term ... but if we had you know like a couple of stoves and you know more of a setup we could have a whole class in here then they would get two terms in a year which would be a lot better cause they would see things happen in the garden a lot quicker ... [Kitchen specialist]

The kitchen specialist has put successful effort into finding recipes where the food is able to be prepared and eaten within a short (30 minute) timeframe. The kitchen specialist is enjoying delivering the programme and seeing the improvements in children's skills and confidence and knowledge about what they will be doing.

... every time they come in they are really enthusiastic and excited about coming whereas ...at the beginning last year they were a bit more hesitant about what are we going to do, do I get to chop anything ... do I have to eat that where now they know that they are going to get to do things, cutting and they are going to get to eat things ...

Volunteers

On the day of the evaluators' visit there were two kitchen volunteers, one who is a parent and one a grandparent of a child. Both thought highly of the programme and were enjoying volunteering.

... I'm doing something useful (laughs) Other than sitting at home doing my children's and husband's accounts. It's getting me out of the house...

I really enjoy it. They're a really nice bunch of kids.

Numbers of volunteers have been higher in the past but have dwindled due to parents needing to find work. The school has made a range of attempts through various means (newsletters, stalls etc) to attract more volunteers and there was a lot of positivity about the programme but there had been little success in recruiting volunteers.

I would love to get more [volunteers] and we have tried, you know we have had a Community Fun Day and another Community Day thing we had a stand there and we made some things and we had information about it ... we really tried to get it out there but we didn't actually get any response from anyone wanting to come and get involved as a volunteer. We got lots of response of oh this is great ... you know all those sort of comments, they thought it was a great idea and children need to be eating vegetables and you know all that sort of thing but it is actually trying to get people in... [Kitchen specialist]

Early Successes

To what extent has the programme been successful in achieving its intended outcomes?

There is evidence that the expected short and medium-term outcomes of the Garden to Table programme are being met at Peninsula Primary. Knowledge and skills in gardening and cooking have been enhanced; there is a willingness for children to attempt new foods; a convivial atmosphere at shared meals; and continuing communication between the school and the greater community about the programme. So far the evaluation also suggests that the medium term outcomes such as children acquiring and using life skills of gardening and cooking and increased social connectedness are being established. There is support for the programme from the wider community.

Short-term Outcomes

Knowledge and skills in gardening

The garden specialist, pupils and other staff members were all very positive about the range of skills that were learnt through working in the garden. Staff are often surprised at the low level of children's knowledge about different vegetables before beginning the programme.

I didn't realise just how little...these kids know or do or see or whatever. You know? where does a carrot come from? ... I sent one kid up to get some carrots and they had no idea where to look.... so I realise now there's a lot of basic stuff... [Garden specialist]

The knowledge that was being taught was quite extensive and often aligned with aspects of the curriculum.

We talk about plants giving out oxygen and using carbon dioxide and we use oxygen and give out carbon dioxide and how it works together....and the plants need us and we need the plants...And worms and slugs and snails and all that have got a purpose...they get to learn how to hold and use a spade. ... how to water plants... what plants need to survive. The four elements. They ...also they get to learn about measuring... there's science in nature and it's all involved... We collect our own seeds and [give them to] the kids... companion planting. [Previous Garden specialist].

The garden specialist works to ensure that the gardening module complements and reinforces what children are learning in the cooking module.

And I asked them ..., what can you use cabbage for? Cauliflower for? Beans? ...and they know [now] because they [are cooking]

With adult supervision the children sometimes have opportunities to use tools that they may not have used before. Learning how to use tools safely and gardening hygiene was an important aspect of the gardening module.

We used to have a drill ... and I said ... let the kids cut their own holes....And that's what we did. ..you just have to ...show them how to use it and then teach them ... the safety part of it as well. ...And I do the thing with the OSH and safety with the spades and the forks and the gloves and the washing the hands and you know that sort of thing. [Garden specialist]

At the end of each session there is a 'snail race' whereby the children collect snails from the garden and then the snails are brought together to compete. This is both educative and fun.

We have a snail race here at the end of every session. (laughs) I tell them that they're my trained snails... it's a way of eradicating, reducing the population of snails just going around the place where they hide. [Garden specialist]

This was commented upon as a great way of ending the session by both the garden coordinator and the children.

The garden specialist goes to extra lengths to show the pupils things that they may not have experienced, which provides them with additional learning opportunities.

I've caught a couple of skinks and stuff like that and showed them that...I've got some wetas that I'm going to bring in...

The children showed a willingness to try a variety of tasks, and even reluctant learners eventually engaged.

They are all willing to get in and water, dig horse manure...The whole lot.... there's .. the odd one or two that go, no, I'm not going to touch that. But by the end of the day ... they [have done it and] haven't even thought about it. [Previous Garden specialist]

The children were also very positive about the range of skills they were acquiring through working in the garden. These skills included working with and care of tools, growing and harvesting vegetables, garden creation and maintenance, pest control, working collaboratively as part of a group and what plants need to grow.

I have learned it is not really disgusting picking up snails from the snail row because I used to be afraid of snails because they are all slimy yeah also I learned how to dig with a shovel and I never dig with a shovel before and I learned how to work as a team with Michael pushing the barrow. [Student]

I learned how to pull out the proper [weeds] and not the good ones just the bad ones... people get mixed up with good ones and bad ones. [Student]

I have learned that... plants are really important for life ... it is not just about like because of nature and stuff it is also to take care of yourself because it gives out oxygen. [Student]



Children gardening

Knowledge and skills in cooking

The participants in the Garden to Table programme also commented on the range of skills they were using in the kitchen module, from learning to follow recipes to using knives safely. The learning was achieved while having fun.

I have had some feedback from them about it. They've never had a chance to use a sharp knife before and things like that. So there's enjoyment as well, straight out enjoyment.[Principal]

Cooking had provided a range of opportunities for children to acquire and practice a variety of skills. The kitchen specialist pointed out the opportunity for pupils to practice applied maths skills.

[That] is another important aspect of it... when they are measuring all sorts of things ... so that is sort of a basic maths thing ... in a very hands on way rather than reading it in a book or something - it is hands on way of learning measurement... [Kitchen specialist]

Staff had seen an increase in confidence and skill levels of the pupils during the year.

The children commented particularly on the safety aspects of the cooking module.

...safety procedures in cooking and like how to use the elements on the stove and how to use a knife properly...And we've done a whole lot of other stuff to do with safety in the kitchen...

Food literacy

The children commented that participating in the Garden to Table programme had increased their knowledge of different vegetables and how they could be used. Staff and specialists also

commented on the expanded food literacy of the pupils, and that some had arrived at class knowing very little about the range of vegetables available and where they come from.

... when we first started there was a lot of kids didn't even know what a carrot looked like. It came in a plastic bag.... They didn't know ... what a beetroot looked like, ... lettuce. .. beetroot comes in a tin. It's all cooked and sliced...they're definitely learning because ... when they first started...the year sixes, ... most of them wouldn't have known what was in the garden. But now you can go 'Ok, what's that plant?'...And I'd say ninety percent of them go, .. 'that is that' without even having to hint.... [Previous Garden specialist]

This participant thought the programme might eventually help prevent obesity and encourage healthy food consumption.

They're learning about food, healthy food...., there has been so much on the TV and radio and all of that over the last few years about obesityAnd the way people have gone from eating healthy to burgers and chips ...I think this just starts to get them back into ...the old meat and veg's ... and fruit.

Willingness of children to try new foods

It was commented upon by the kitchen specialist and the pupils that the children were more willing to attempt foods that they either did not know or thought they did not like as a result of the Garden to Table programme. There were comments that children would encourage each other to try foods, signalling positive peer influence in the trying of new foods.

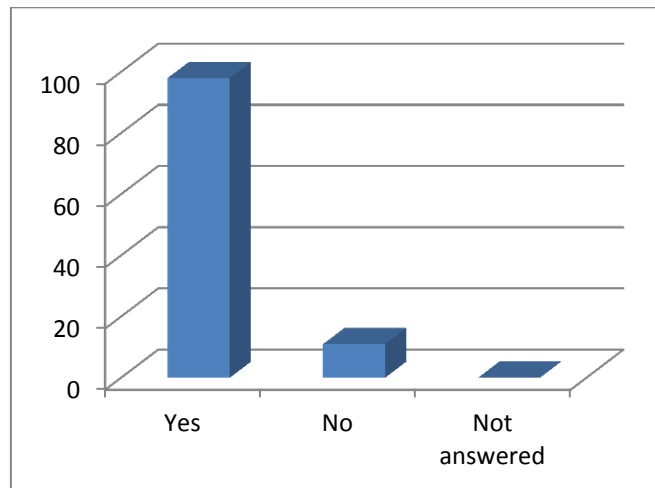
I think they really enjoy it and you get an odd oh yum... and encouraging each other to not be fussy and to try other things so it is a fun atmosphere...[Kitchen specialist]

Some children also noted that they would try things or eat things at school that they would not usually be willing to eat at home.

It is a new experience for me having different kinds, trying things I have never tried and yeah I have never tried this kind of food before, the kind of stuff here - at home we normally don't have vegetables

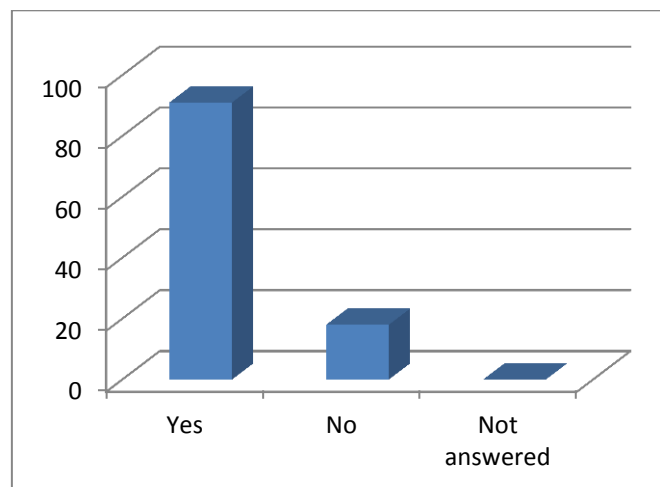
Survey findings also indicated children's willingness to try new foods and whether they would eat foods they thought they did not like. Most children reported they were willing to try new foods (n=98 out of 109) and 11 were not willing to try new foods. (Figure 23)

Figure 23: Willingness to try new foods



Most children reported they were willing to eat foods they thought they did not like (n=91) since participating in the programme and 18 reported they were not willing to eat foods they thought they did not like. (Figure 24)

Figure 24: Willingness to eat foods you thought you didn't like



A convivial atmosphere where children prepare and share food

Eating together had positive outcomes of encouraging a whanau and family type atmosphere.

It's just like a family.... [Student]

The pupils enjoyed sharing a meal together and took pleasure in using the vegetables they had grown and eating the food prepared in class. The children were polite at passing plates and sharing food and ensuring everyone had enough to eat. They were gracious hosts.

Communication about Garden to Table between school and community

Peninsula Primary used a variety of ways of communicating and engaging with the wider community about the Garden to Table programme. The school had held stalls at local community events and sold zucchini fritters produced from vegetables grown at the school and written articles about it for local newspapers and the school newsletter. The school also made recipes from the programme available on the school website.

... we had a public meeting...We texted all the parents that had a cell phone, we introduced it in the newsletter, the school newsletter, "The Weekside"...Any time we have an information evening we usually have someone stand up and talk about that as well... [Principal]

Some students communicated with their families about what they had been doing in the Garden to Table programme.

Child1: I talk to my parents a lot about it when I get home.

Child 2: I talk to my sister sometimes.

Child 3: I talk to my parents. And I ask them if they can make it [the recipe made at school].

The garden specialist had grandchildren at other primary schools and had talked to those schools about gardening and the Garden to Table programme and was encouraging other schools to start gardens. He was also considering ways that schools could work collaboratively i.e. through sharing and swapping plants.

in talking to them [it is]...creating an interest in those schools... so potentially we can then start working together as part of plant distribution and that sort of thing. So other schools can learn... how it works and understand what's going on and can actually start that up and get going you know?...I think it it can really work. ...It's just got to take time, really

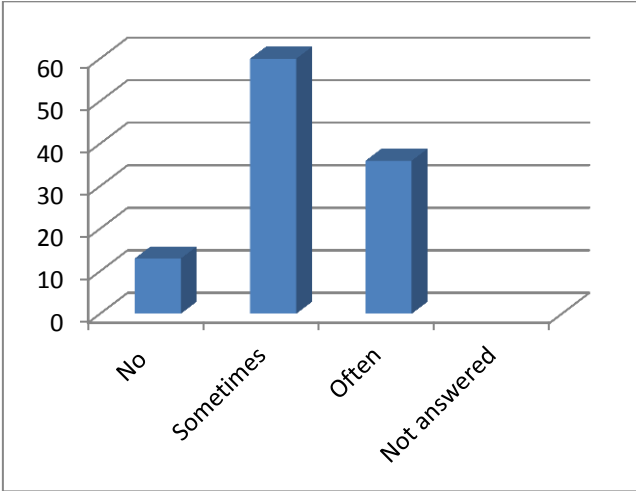
Medium-term Outcomes

Life skills in the areas of cooking and gardening

Some children were transferring the gardening and cooking knowledge and skills they had learnt in the Garden to Table programme to their home environment, while others thought that they might use them in the future.

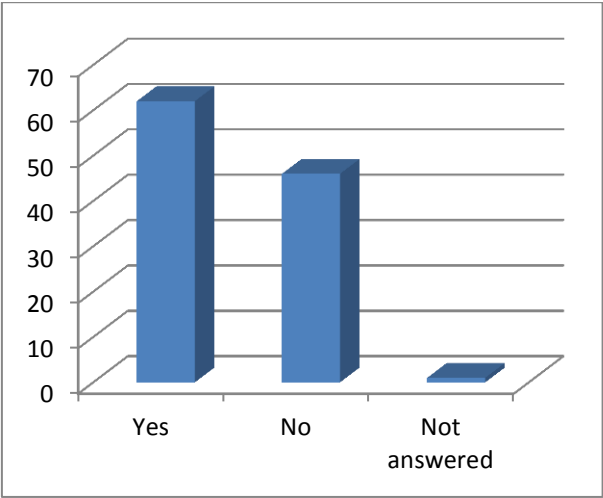
Survey findings indicated that most children were cooking at home sometimes (n=60) or often (n=36). Thirteen children reported they did not cook at home. (Figure 25)

Figure 25: Cook at home



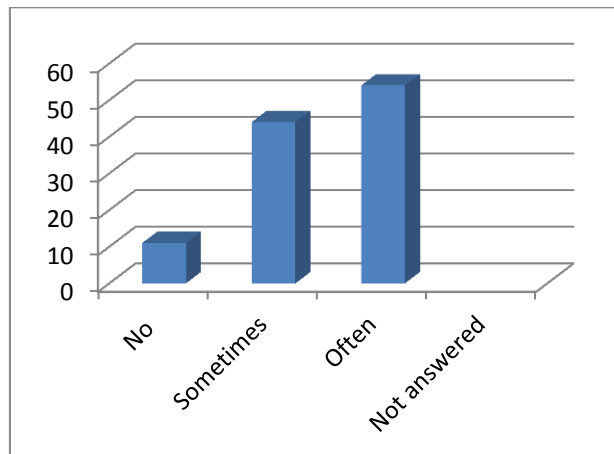
Children were also collecting recipes and helping to shop for food. Over half the children (n=62) reported they were collecting recipes and 46 reported they did not collect recipes. (Figure 26)

Figure 26: Collect recipes



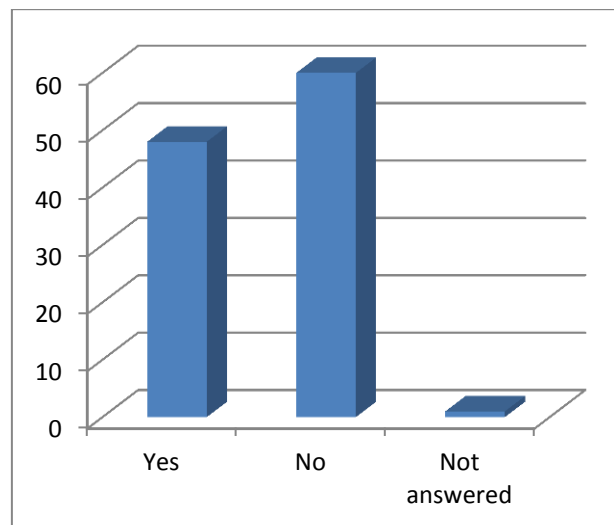
Most children were helping to shop for food either often (n=54) or sometimes (n=44). Eleven reported they did not help shop for food. (Figure 27)

Figure 27: Help shop for food



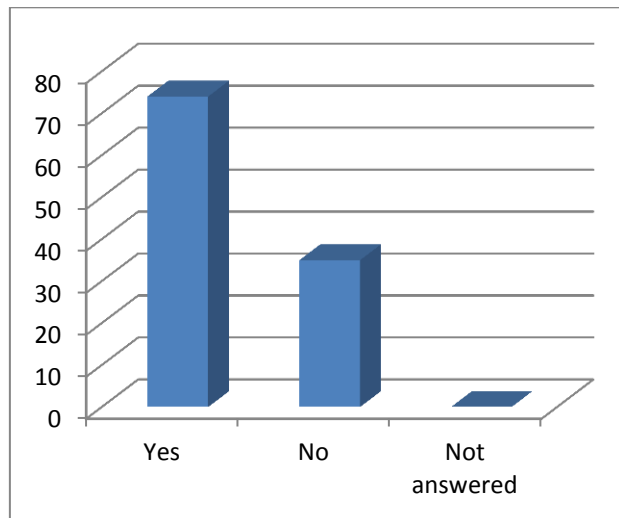
Children were asked if they had made a meal at home that they had made at school. Forty-eight children reported Yes and 60 reported No. (Figure 28)

Figure 28: Make something at home that you have made at school



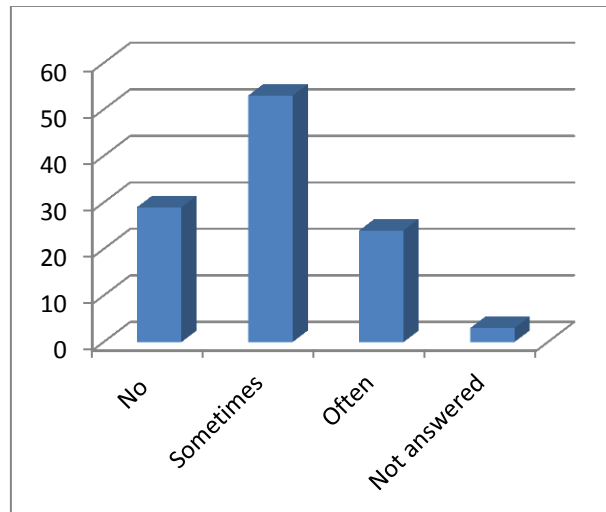
At least two-thirds of children (n=74) reported they had made a garden at home or somewhere outside of the school and a third (n=35) had not made a garden outside of school. (Figure 29)

Figure 29: Children make a garden at home or somewhere outside of school



Over two-thirds of children were engaged in gardening at home either sometimes (n=53) or often (n=24). Twenty-nine children reported they did not garden at home. (Figure 30)

Figure 30: Garden at home



Children were asked if they would use the gardening and cooking skills they had learnt in the future. Most children reported they would use gardening skills (n=86) and cooking skills (n=93) in the future. Some reported they would not use gardening skills (n=22) and cooking skills (n=13) in the future. (Figures 31 and 32)

Figure 31: Use gardening skills in the future

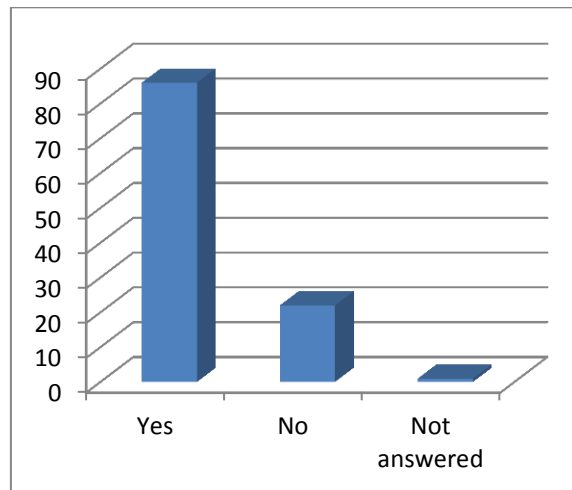
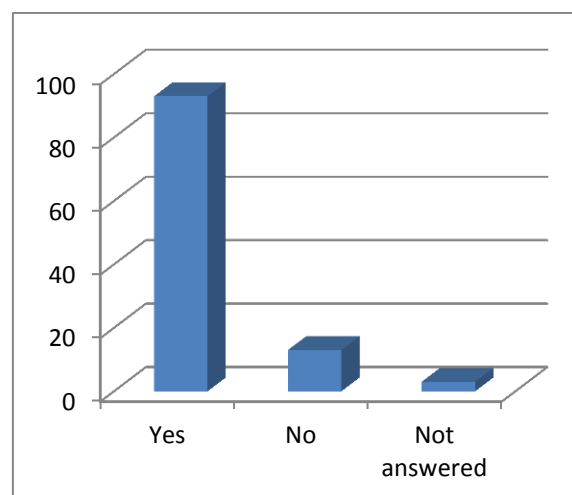


Figure 32: Use cooking skills in the future



Social connections and social skills through working together to grow, prepare and share food

The small group work in both the garden and kitchen gave opportunities for peer teaching and learning. It also gave all students an opportunity to feel like they were achieving something.

The dynamic is actually quite interesting because they learn from each other.. and I think that's useful. And there's no kids that's actually made to feel that you can't do something or .. you're not good at it. [Teacher]

Staff commented that a group of boys who found academic learning difficult and were sometimes isolated from their peers really enjoyed the gardening module and worked well with other pupils.

I suppose there's about four .. special boys...they lose their attention span really quick but I've noticed ... and ... I've said to ... the head teacher...I noticed that a couple of the boys really have stood out in coming down here and really are keen to get in and help and do

it. Whereas they were sort of always... they got picked on all the time or whatever... they're really, their attitude had really changed. I think it ... more hands on...gave them an opportunity to be able to do something and see something that they've done themselves. [Previous Garden specialist]

The programme also provided an opportunity for students who were not academically inclined to engage in active learning.

You know, it give them a chance to do things that [is]... out of the routine sitting in the classroom and writing and things like that... yeah, there are some kids that that find it, find using their hands and doing things ...is more to their kind of liking. [Teacher]

It is a fun thing to do ... I just like enjoying going into the kitchen and making some new foods instead of doing school work like paperwork and stuff, it is more fun it is more like a movement activity not just sitting down and writing ...[Student]

Yeah because I don't really enjoy like writing down stuff like that maths, writing and stuff especially maths. [Student]

The volunteer who was a grandmother enjoyed mixing with the younger generation and the opportunity to connect with young people.

I'm mixing with children...Rather than being on my own or mixing with old people...I just think I enjoy it. They're good.

Another participant thought having volunteers and specialists that were grandparent age may be particularly positive for those pupils who may not live or be close to their own grandparents as it gave them an opportunity to mix with an older generation.

The kitchen specialist noted that she sometimes observed children who may not necessarily be friends working together and supporting, encouraging and commending each other positively for the work they were doing.

...I guess I see things like how they work together when they are in here and there could be some that perhaps are not particularly good friends but they are chopping away together and working together doing dishes and things, I see them working together in teams, ... [I] see [name] say to someone oh you did a good job of cutting that up and I thought that's not something I would normally hear from that particular child...

Garden to Table is supported by the community.

The programme is supported by the community through donations of equipment, plants and volunteer labour.



Community support

Peninsula Primary has been very active in promoting the school's Garden to Table programme in the wider community. This has probably raised the profile of the programme and benefited the school but has unfortunately not resulted in volunteers for the programme.

...We've tried all sorts. We've had a poorly attended public meeting. We've had .. a text campaign. We went to gardening clubs...We had a store, spring festival down in the community centre....Which [received] a tremendous lot of feedback and we've been asked to do that again. We cooked, took food from the garden and cooked it down there while people watched and came and sampled it....[Principal]

While community support for the programme was considered important, the time commitment required to source more community assistance also conflicted with a busy work schedule and other commitments for staff and specialists.

Concluding Comments

The Garden to Table programme at Peninsula Primary has been well received and has enthusiastic support from staff, pupils and volunteers. The short term goals of the Garden to Table programme have been achieved at Peninsula Primary. The programme has increased knowledge and skills in gardening and cooking, food literacy and willingness to try new foods has increased and pupils enjoy the programme and describe it as fun. The programme is also encouraging social connectedness through providing opportunities for small group work and inclusiveness, supporting a family atmosphere, and providing opportunities for different generations to interact (such as grandparent volunteers and pupils). Having the Garden to Table programme at Peninsula Primary impresses parents of prospective pupils and is a positive addition to the school.

The school has been very active in its communication about the programme to the wider community and attempts to encourage community and parent participation and support. Activities have included holding a stall at a local community event and selling zucchini fritters, articles in local newspapers, school newsletters and word of mouth. The school has been supported by the community with parents and businesses donating seedlings and other equipment or offering discounts. While the programme has a certain amount of community support, volunteer numbers have diminished over the period the programme has been operating. This has been disappointing and makes running the programme more difficult as volunteers are an important and special part of the programme. A lot of effort has been put into trying to recruit more volunteers with little success. The volunteer who assisted the programme and was interviewed was very positive about the programme, as were the rest of the students, staff and specialists.



Harvesting crops

Dawson School

School Description

Dawson Primary School, in Otara, South Auckland, is a Decile 1 school catering for students in Years 1 to 6. The school has a current roll of 444 students. The school is ethnically diverse with 25% Maori and 74% Pacific, reflecting the demographics of the wider community. The classrooms are attractive, functional and well-resourced. Teaching programmes are targeted to individuals and groups and good support is provided for students with learning needs or special talents. A significant number of teacher aides support learners in classrooms. Special learning programmes include literacy, mathematics, English for speakers of other languages (ESOL) and extension activities.



Pupils at Dawson Road School with a great crop of cabbages

The Garden to Table Programme

The garden

Dawson School joined the programme due to funding from the ASB Community Trust. Prior to joining the school had already established strawberry patches, salad gardens and potato crops from a grant from Mazda. The school was keen to further develop gardening and cooking opportunities for a wider range of children. The multi-disciplinary consultant group, Opus International, supported the programme through designing a new garden space. A local business assisted by supplying volunteers to create the garden. The new space includes a butterfly garden, pumpkin hut and a

beehive plus fruit and vegetable plants and trees. The school also has five worm farms and a kunekune pig.



Children with crops from the garden

There are a range of gardens which are flourishing, attractive and productive. Over 70 fruit trees have been planted, and the school also has a native plant garden. The pupils are deservedly proud of their gardens and what they have accomplished.

Our garden looks beautiful after all we've done.

Yeah, have you seen it?

Interviewer: I'm going to. I haven't seen it for a little while. I'm going to go have a look though.

We'll show you.

It's so beautiful (Children)

There are 21 gardens throughout the school which can be difficult at times to maintain, particularly outside of term time. However, the garden specialist, volunteers and pupils are enthusiastic about keeping the gardens maintained and dedicate lunchtimes to the task.

Seeds are saved in the garden for the next season, which reflects the 'whole cycle' approach of the Garden to Table programme.

... a lot of our seeds now - we're saving them from the previous year so you can see that cycle. And I reckon seeing that cycle complete is... I don't know. You see the whole picture. [Garden specialist]

The kitchen

Dawson Primary is presently using the kitchen in the school hall for the cooking part of the Garden to Table programme. The kitchen and school hall had previously been used by the wider community for functions but now are used mostly for the Garden to Table programme. Many students are proficient in some cooking skills as they cook and do dishes at home, however, the Garden to Table programme is an enjoyable and welcome part of the school curriculum. The school is working on converting their old dental clinic into a kitchen classroom.

What is the quality of the programme with regard to its content, design and delivery?

Enthusiasm for and engagement in the programme

The Garden to Table programme was very positively regarded, with staff, students and volunteers all expressing enthusiasm about the programme.

It's awesome.

It's fun.

Amazing.

It's fun because you get your hands dirty. [Children]

...it's cool using up all our vegetables that we planted. [Children]

I love the Garden to Table programme...I love what it provides. I love the resources - when I say resources I don't mean...financial, I mean of sharing information, sharing ideas, the written resources they have for us to draw from...The internet resources they provide...[Teacher]

I think it's a very worthwhile programme. [Principal]

Staff expressed enthusiasm about the way the programme enhances and extends curriculum based learning and spoke of projects that had followed on from the Garden to Table programme.

...the Garden to Table has instigated a lot of other learning...In the sciences which has been really, really great...our boys built the bee hive...So they had to investigate all about earth ships...then they had to investigate how to put a camera in there so that the other classes could see what the bees were doing in the hives. So there's been lots of follow up learning...that's come from a basic idea. [(Principal)]

Parents talk positively about the programme to staff, and children have taken their enthusiasm for the programme and the skills they have learnt back to their families.

... I know parents will come and talk to me all the time about, oh, so and so came home and cooked this for us...I've got a grandparent who says, my grandson came and he made us these muffins. They were wonderful...Because that's what they cooked with at school. That's what they made...I get a lot of parents telling me when I see them that their children are enjoying implementing this at home...And over the past two years I've had a couple of parents who've said to me we've had to start growing some vegetables at home. [Teacher]

Staff, specialists and volunteers enjoyed the enthusiasm of the children in the programme, and the willingness for them to put their hands to any tasks.

Cleaning the vegetables, peeling them, chopping them...Cleaning up after. They're involved in everything and they just do it, you know, and they see as part of the, of the whole food...Into the ground and then eating it and cleaning up. [Volunteer]

The school has won prizes and awards for their gardens and cooking, and financial prizes have been invested back into the programme to upgrade kitchen facilities and the garden. Other organisations have assisted by volunteering labour, and the school is grateful for the support.

...we won a competition...with growing strawberries and we've got a ten thousand dollar prize. And that went towards upgrading our kitchen so that we could actually do some cooking in it...we've had the odd win on different things that Debbie has entered us into that's a thousand dollars here or two thousand here and that's all gone towards the garden...we've been fortunate that we've had those other people helping us in some way otherwise we'd never have done what we've done. We've been fortunate to have Kimberly Clarke come in and...their workers came for a day. So there was forty of them came in and worked for a day in our garden too...[Principal]



Raised gardens

Implementation of the programme

The programme took resources, time and effort to get up and running. It has become a success through the concerted efforts of children, volunteers, specialists and staff and the financial support of grants.

...unless you had that funding and you had access to funding, very difficult to set everything up. I mean we were lucky. Opus also did our plans for all our gardens free of charge. So that was really good too...we were lucky that another teacher had had an interest in gardens and she set up some gardens to begin with just as something for children to do at lunch time and um, that they could use some of it for their cooking. And each class sort of contributed a little bit to it. And then we got into Garden to Table. And we were in it for some time before we actually got the Kitchen and Garden specialists. And then it took some time to get the gardens to a standard where we could use it in the cooking. [Principal]

It is thought that the gardens, orchards and kitchen are facilities that will continue to benefit the school into the future.

...We put in close to eighty fruit trees over the winter period. So it'll be an asset for the school for a long time. And actually in a few years' time this programme will get easier and easier...we will have a lot of fruit over that summer period. [Kitchen specialist]

The programme is seen as enhancing and adding to skills that children may already have as well as introducing new knowledge. It fits well with the curriculum, using all of the core skills of writing, reading and math. The school staff look for opportunities to capitalise on current learning topics and dovetail with the Garden to Table programme.

They learn safety techniques with us...And that's crucial. [Teacher]

When you are doing cooking or gardening you are doing maths, you are doing literacy. We don't have to replace any part of our programme to catch up...even following the tenets of the Treaty of Waitangi so far as we...learn...what were native vegetables, what have been imported vegetables...and incorporating Maori cooking when we can...My hope is that next year we will incorporate foods from different cultures...I can't actually see an area where it doesn't fit because science, we're doing chemical changes all the time...with health we study the nutrition...with science we do all our own propagation. [Teacher]

While the school already had a garden prior to joining Garden to Table, enrolling in the programme has been incredibly beneficial.

So ... Counties Manukau's District Health Board's has also been hugely involved with our Garden to Table programme.... it all actually comes together...We couldn't have run our programme like we do without Garden to Table. That took what we were trying to do and enhanced it to a far greater level. [Teacher]

The Kitchen and Garden Specialists

Finding the right person for the kitchen co-ordinator position took some time, however employing the right people and having a team that worked well together was seen as a key component for the success of the programme. The positions require a variety of skills and characteristics, and the capacity to fit into the team environment of the school. The dedication of the specialists is appreciated by the schools, and the specialists are well regarded members of the school community.

...they have to have the knowledge for either the kitchen or the garden to begin with and they also have to be able to relate to children really well...we've been very fortunate that our kitchen person was once a teacher...(but) she's doing this for teacher aide pay...she's got excellent knowledge about cooking because she was a cooking teacher and is able to use whatever vegetables are available into some sort of recipe... so she's very adaptable...you have to be thinking on your feet because you've got different classes coming all the time and you only see those children for such a short span...So you have to be able to relate to them quite quickly...you have to get on with the people within the school as well, the teachers...so I think that there's a multitude of things. You have to be able to go out and try and get free things...You know, the garden person is often out trying to scavenge anything she can that's free...she has to...So you have to be a person who's got a bit of initiative and get up and go...you can be a cook but you can't necessarily do the job...Because you might just want to use certain recipes and you have to actually use a lot of vegetables and things in your recipes and try and cut down on everything else because the cost comes back to the school. [Principal]

The programme does require extra resources in terms of time and energy both for the specialists and other staff, but this was seen as being worthwhile.

(It) has meant that I've had to give an extra unit to that teacher...you have to be prepared to do that sort of thing if you want it to be successful...(And) you have to sort of think outside the box a little bit and think about ways of doing things...we make sure that our two people who do the kitchen to garden... don't have a class first thing this morning. It's their time to get together and talk about what's happening in their programme. What one's doing and what the other can do with that...[Principal]

The kitchen and garden specialists are also seen as important links in recruiting volunteers.

I think that we've been very fortunate because our kitchen person in particular has been able to get people in to help her in the kitchen and it would be diabolical if we hadn't got some support and help. [Principal]



Children preparing food with the kitchen specialist

Volunteers

Volunteers were seen as an important aspect of the success of the programme, adding incredible value. Having more (and regular) volunteers was seen as being beneficial for students as they received more individualised attention. Although a school planting day had attracted large parental involvement, like most of the schools, sourcing regular parent volunteers for the Garden to Table programme has proved more difficult. The school was proactive in thinking about potential avenues for engaging more parents in the programme, such as inviting parents to a Christmas lunch put on by the students, and discussing the programme with parents during parent / teacher interviews.

...we had a little Christmas function at the end of last year for all the classes and we invited all the parents. And some of the parents did come along and we gave them some seedlings so...Trying to entice them in (laughs). [Garden Specialist]

At present, there are regular volunteers from outside the community and at least one garden volunteer who assists each week. There were enthusiastic parent volunteers on the first day the researchers visited. There are some fluctuations in volunteer attendance with some days being very well attended and some less, and differences in the seasons which can make planning (for kitchen and garden co-ordinators) difficult. A more secure volunteer base including parents was seen as being an ideal to aim for.

...it's quite hard to get volunteers over the winter....it'd be better for the children if there was more volunteers. They'd get more out of it.... we're sort of slowly picking them up We only had really one last year ... it's a bit hard actually. You need to be at a certain stage of life to be able to do it really, I think.... the more volunteers you have the more pleasurable it is for the kids. So I think the more they learn they have time to chat more and they get shown things more and so I mean, it's fantastic for them to have that individual attention. I think that's another things it's all about really, isn't it. [Kitchen specialist]

The volunteer who was interviewed found working with the children and in the Garden to Table programme rewarding and enjoyable.

I just love working with the children and seeing their response to what comes out of the ground and then sitting and eating it. [Volunteer]

I love interacting with the children, I find it very satisfying. I don't ever not want to come...It's quite tiring by the time you've finished you wrap up and you have a cup of tea and a lie down (laughs) [Volunteer]

Students also enjoyed working with volunteers

But when we're like with other people it's cool because it's like working with your parents but different. [Children]

Early Successes

To what extent has the programme been successful in achieving its intended outcomes?

Short-term Outcomes

Knowledge and skills in gardening

The Garden to Table programme had enhanced learning and skills in gardening, and students had a good understanding of what plants needed to flourish, as well as knowledge about pest control, animal care and equipment. While the programme is specifically for the older children in the school, younger children also have opportunities to develop skills in the garden.

All the areas, not just the year five and sixes...they talk about the worm tea and come and have a look at all the different things that's going on and then in lunch time a lot of them come out and help. Some of the little kids just kind of pull some weeds and things like that. [Garden specialist]

Knowledge and skills in cooking

Staff thought most of the students would already be cooking at home and helping in the kitchen, but the programme extended children's knowledge and skills in food preparation and cooking and emphasised safety with equipment.

...they're getting to know the equipment. So I can say, go and get the spatula or whatever and they'll know what to go and get...they're getting to know how to use the fry pan, electric fry pans. How to turn them on and do all that sort of thing [Kitchen specialist]

Food literacy

Students were being introduced to new vegetables and new ways of preparing foods. Staff had noticed that children's discussions of ingredients and meals had become quite nuanced.

...they discuss the flavours, they discuss the tastes. It's like watching a judge on Masterchef...They discuss the little subtleties about cooking it...And you'll often hear, I don't really like that but it's nice in this... (laughs) With a certain type of vegetable or something like that...sometimes there's just utter shock and surprise that it can taste so good...But very much becoming the Junior Masterchef Judges is hysterical. I love watching that. [Teacher]

Willingness of children to try new foods

The increased food literacy also extended to willingness to try foods they had not tried before, and using ingredients that were uncommon.

...they're fascinated because a lot of the food they're quite familiar with but...the others they're not...and the way of preparing it is sometimes quite different for them but they are all into it and we teach them even to make pasta from scratch and they love it. (laughs) [Volunteer]

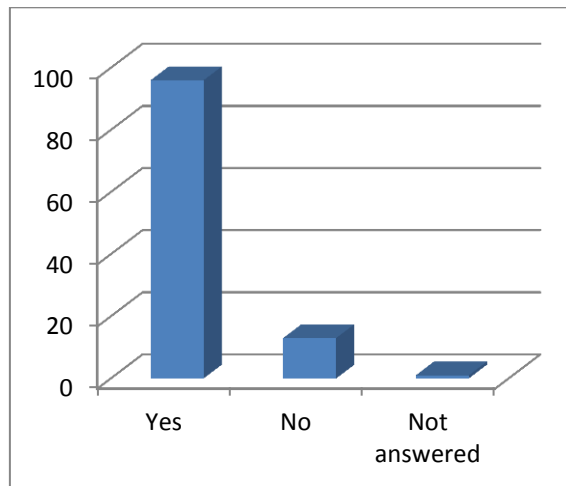
And it's surprising how much they you know, how much they'll eat of it. They're not saying ooh, yuk. I'm not tasting that. It's vegetable. For some reason - I think because they've grown it and seen it and prepared it, the food all disappears no matter how many herbs and vegetables are in it...And how much garlic. [Kitchen specialist]

Ingredients that were once unusual became regular additions to meals, and pupils became knowledgeable about different food items their uses.

It's...familiarising them with fresh food...because you repeat using a lot of ingredients...So by the time they've finished they absolutely know how to chop an onion, that garlic helps flavour stuff. They know all about herbs and how they help enhance flavour. [Kitchen specialist]

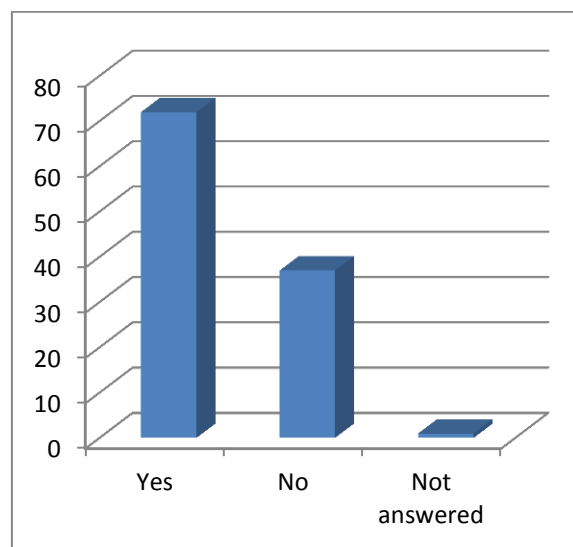
Survey findings also indicated children's willingness to try new foods and whether they would eat foods they thought they did not like. Most children reported they were willing to try new foods (n=96) and 13 were not willing to try new foods. (Figure 33)

Figure 33: Willingness to try new foods



Two-thirds of children reported they were willing to eat foods they thought they did not like (n=72) since participating in the programme and a third reported they were not willing to eat foods they thought they did not like (n=37). (Figure 34)

Figure 34: Willingness to eat foods you thought you didn't like



A convivial atmosphere where children prepare and share food

When eating together at the end of the session the atmosphere is positive and jovial, and is enjoyed by all the participants.

It's a nice environment. It's a happy sort of relaxed environment...Very buzzy, enthusiastic, happy...
[Kitchen specialist]

...we always say grace and...then they always say a thank you speech which is really good.
[Volunteer]

There are plans for younger members of the school to also participate in a meal.

...the team work...my plan next year for the senior class is to actually invite a junior class to come and have a meal with them...That...sort of whanau feeling getting the younger ones to see also what's in store for when they get bigger. Getting them to awahi what the senior children have done. [Teacher]

Communication about Garden to Table between school and community

The schools Garden to Table activities have been advertised throughout the community, and the Garden to Table programme has provided opportunities for greater links between the school and the wider community. Parents and the wider community have opportunities to participate in the programme through joining meals and receiving produce from the gardens.

We've had um, morning teas that we've you know, invited parents to and they come when their child's cooking and then they sit down and eat with them so that they can experience what the children are doing. [Principal]

You know, I'll get mums coming in and going, oh, we've got a family do this weekend. You wouldn't have any spare parsley would you? And I go yeah, come on round and we'll go around. So we'll share it with them. [Teacher]

Communication about the programme occurred through a variety of mediums, including the students talking about the programme at home, and when parents visit the school. The pig has attracted visits from interested parents.

...there's lots of information going home about it. The children go home and talk about it. The parents at parent interviews talk about it and say how wonderful it is that their children come home and talk about it all the time. [Principal]

We've had a pig, a Kunekune pig. And that's had a big impact on the community because the parents and families come in to visit the pig. [Principal]

The school has engaged with other educational facilities and age groups such as playgroup, young mother groups and with businesses and funding providers as a result of the programme. The school is proactive in taking opportunities to promote the programme.

...we've been in the newspaper. We've been in some magazines...we talk quite frequently about them... we've shared...information quite widely amongst the Garden to Table schools in particular. But other schools wanting to start gardens have been here and visited as well...through the different articles in magazines and the newspaper I think the community have got to hear about us...being on some of the competitions where people can go on and vote...So they get to hear about our garden at the same time. Like at the moment we're involved in trying to get funding for a cook book and you go online and you

vote...I think that people are hearing quite well about what we're doing at school.
[Principal]

...I've talked to...a kindergarten along the road and teenage mothers...which is attached to Tangaroa College and they've both got gardens and so...we've given them spare seedlings.
[Kitchen specialist]

The children and school has entered competitions and won prizes for their gardening and cooking.
The garden and kitchen is seeing as being of benefit to the wider community as well as the school.

...we had a tribe of volunteers come in and along with my class and some other students they dug and planted a sixty eight tree orchard. And they were so proud of it they entered the photos in a before and after competition and we won...they're able to see that what they are learning and doing also has impacts on the wider community out there as well and things like that.[Teacher]

Medium-term Outcomes

Life skills in the areas of cooking and gardening

The programme has resulted in increased skills in cooking and gardening, and the students were certain that this knowledge would be useful in their lives. They looked forward to teaching the skills to others in the future.

It's very educational.

You'll get a good experience.

Yeah. And you learn how to do stuff.

When you grow older.

And you can do stuff like teaching other people.

And it's cool. It's cool learning because when you grow up you might have kids, you might want to teach them how to cook too, and garden. [Children]

Staff, volunteers and specialists also thought the range of benefits from the programme, including having a sense of positive regard towards gardening and cooking, could extend into the future.

...maybe later in life they might think, oh yeah, I used to use that, we cooked with that at school. That was really nice. I might try that...Or different ways of cooking things that they wouldn't otherwise have known. Learn how to present things and they learn all about the preparation of from scratch. I think it's really beneficial...And all kids should have a go at it. [Kitchen specialist]

Students, staff and specialists thought skills learnt in the programme were being transferred to the home environment, and that families are encouraged by students to create gardens and cook recipes learnt on the programme.

...I think that going home the children have taken the different recipes that they've got. They've been prepared to cook them and they've talked to their parents about the different vegetables that you can grow and the ones that you can buy at the shops if they haven't got gardens. Some of our parents have started gardens. [Principal]

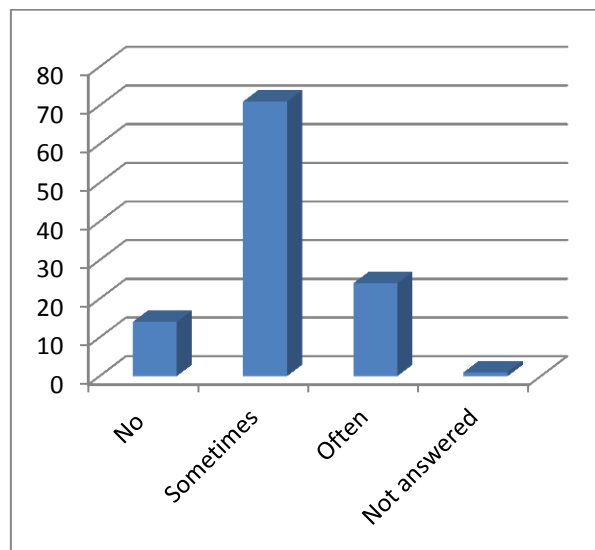
Students confirmed that they were using the skills they had learnt in the programme at home, and some had already been teaching others the skills they had learnt.

It's been cool learning how to cook because you can cook at home. [Children]

My niece likes to cook but she was never allowed because she's too young....And then um, one day I taught her how to make pasta. Because her mum has this pasta maker. And then she was happy as and so ... she's older now. She taught her little brother. [Children]

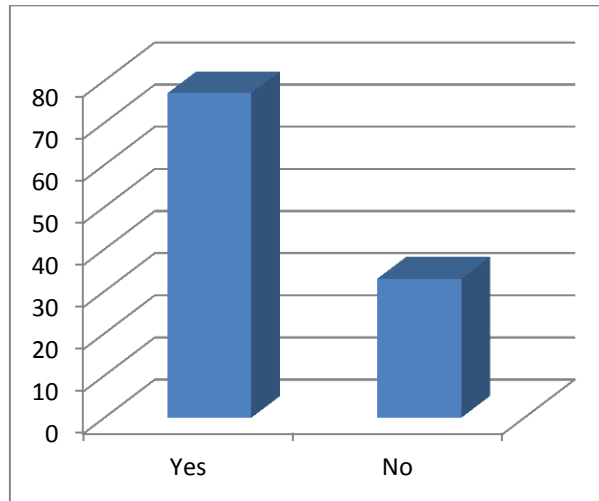
Survey findings indicated that most children were cooking at home sometimes (n=71) or often (n=24). Fourteen children reported they did not cook at home (Figure 35)

Figure 35: Children who cook at home



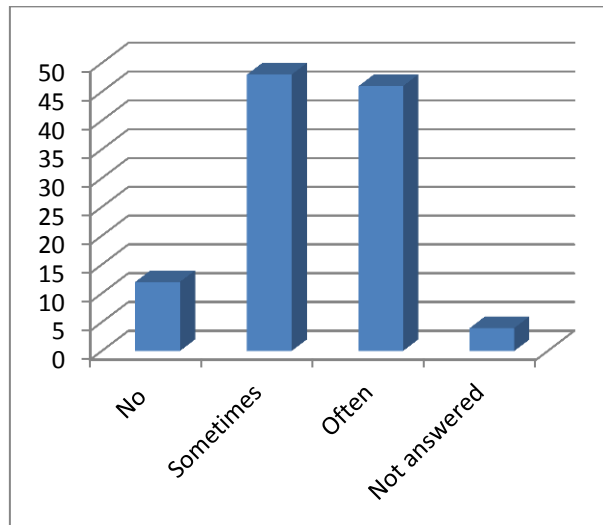
Children were also collecting recipes and helping to shop for food. At least two-thirds of children (n=77) reported they were collecting recipes and 33 reported they did not collect recipes. (Figure 36)

Figure 36: Collect recipes



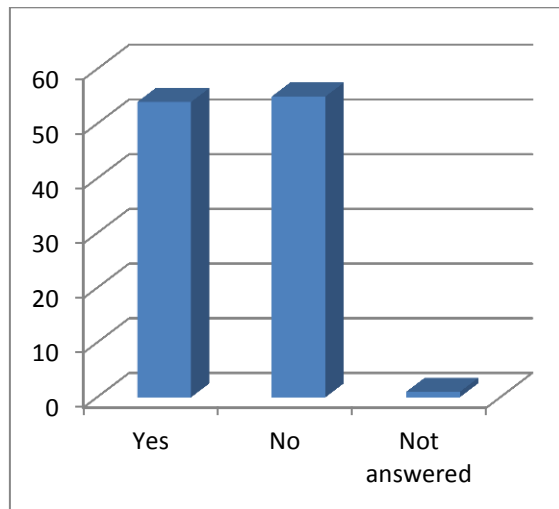
Most children were helping to shop for food either often (n=46) or sometimes (n=48). Twelve reported they did not help shop for food. (Figure 37)

Figure 37: Children helping to shop for food



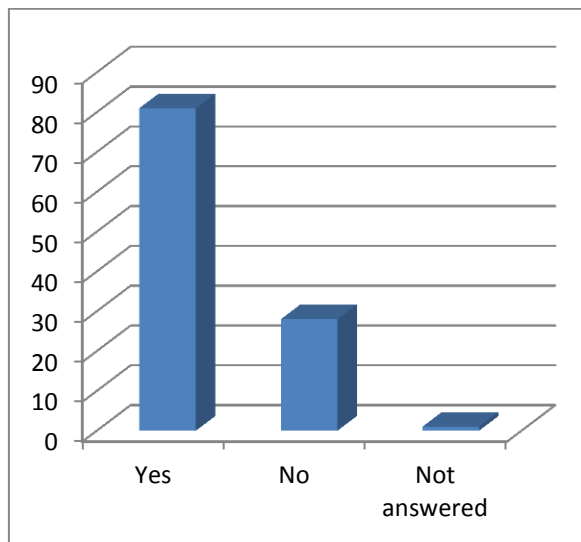
Children were asked if they had made a meal at home that they had made at school. Half the children (n=54) reported Yes and half (n=55) reported No. (Figure 38)

Figure 38: Make something at home that you have made at school



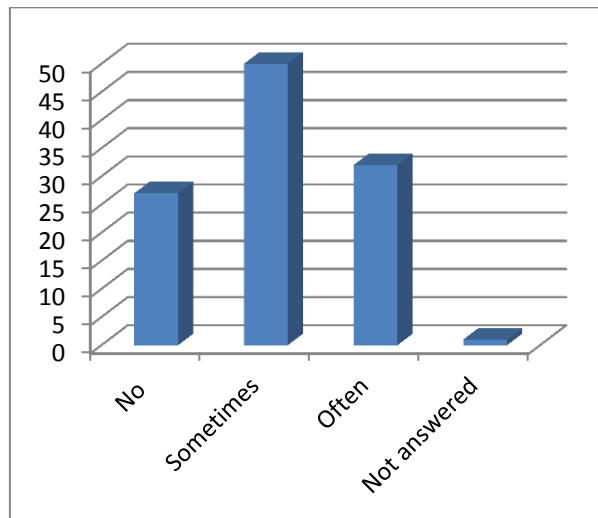
At least two thirds of children (n=81) reported they had made a garden at home or somewhere outside the school and a third (n=28) had not made a garden outside of school. (Figure 39)

Figure 39: Children make a garden at home or somewhere outside of school



Over two thirds of children were engaged in gardening at home either sometimes (n=50) or often (n=32). Twenty-seven children reported they did not garden at home. (Figure 40)

Figure 40: Children garden at home



Children were asked if they would use the gardening and cooking skills they had learnt in the future. Most children reported they would use gardening skills (n=94) and cooking skills (n=100) in the future. A few reported they would not use gardening skills (n=16) and cooking skills (n=10) in the future. (Figures 41 and 42).

Figure 41: Use gardening skills in the future

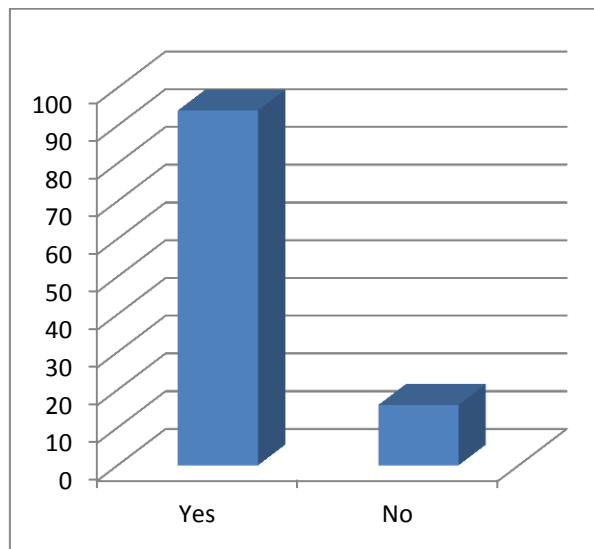
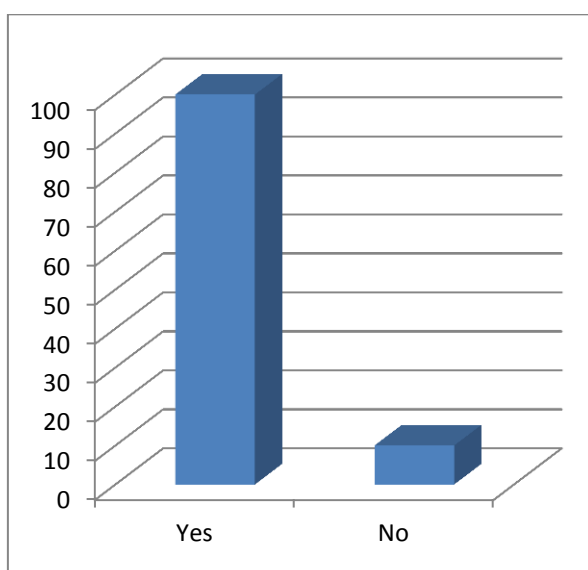


Figure 42: Use cooking skills in the future



Social connections and social skills through working together to grow, prepare and share food

The programme was seen as enhancing social skills, patience and ability to work in a team.

I think it's good for their social skills, you know, having to work in a team...we put them into small groups and they've got to work together to do things and take turns and all that sort of thing. [Kitchen specialist]

We've improved.

Our first day we were fighting over it...

But now um, now we know the tools and um, in the garden we're really like, we're really getting better at like taking turns.

...And communicating.

We're getting along with each other [Children]

The programme gave opportunities for students who did not like academic learning to engage, and to develop skills and confidence. Garden to Table was seen as encouraging team work and participation, and the programme was also seen as providing opportunities for social connections between students, and activities for pupils who do not make friends easily and opportunities for positive engagement with the school.

We've found that it's actually benefitted some of our children who are slower to learn and perhaps find maths and literacy more difficult...some of those children who we have

on special learning programmes really love the cooking and gardening and...it's often the children who...don't play with other children, who haven't got friends, find it difficult to make friends...They really enjoy doing that sort of thing...Gives them an opportunity [to] do something with the school and for the school and with others. [Principal]

Because they've, particularly found that a couple of children that perhaps don't focus so intently on the class work...are absolute geniuses in the garden or the kitchen...and it, they also develop more of a sense of confidence...and so the whole thing just makes them mesh further together. [Teacher]

Garden to Table is supported by the community.

The Garden to Table programme has been supported through grants from a range of organisations including the local District Health Board, and free garden design and volunteer labour from another business. The links between the school and the wider community has spillover benefits, and the volunteering organisations also enjoy the experience.

...forty of them came in and we built the new fence around the beehive area...the children were out there as well. So for every adult that was hammering there were children hammering. We moved about four truckloads of mulch that day...one of our families wrote to Kimberly Clarke and spoke to them about the impact that the building work had on their son and how he'd come home and had been wanting to hammer things all weekend...the staff there went and bought a builders kit for a child his size with a little helmet, a hammer and everything, and the carpenter's belt and sent that to school for him...they really appreciated that they got to work with the children...they went away quite impressed with how well our children behaved. [Teacher]

The school is very appreciative of this support as there is limited capacity to fundraise within the local area.

We won't fundraise within our own community simply because they don't have the money and it's not fair. [Principal]

The students were appreciative of the gifts from the community, including the volunteer labour, and enjoyed working with volunteers.

And some of the equipment we get is from donations and...

... and competitions...

Oh, it's been an experience with, working with people that you, that help us. And it's amazing that we got like, mulch as a donation and some other stuff. [Children]

The community has continuing opportunities to connect with the school and the programme through various means such as buying produce and visiting the garden.

...we've sold worm tea...to the community...and we've sold excess vegetables if we've had them, tomatoes and things. We've sold them to the community. [Principal]

Concluding Comments

The Garden to Table programme is a welcome addition to the school and has enhanced projects that the school had already initiated. The Garden to Table programme is being well received at Dawson Primary and supports and enhances other wellbeing and sustainability initiatives the school has such as being a health promoting school, a rongoa (medicinal Maori) garden, a student visit to a recycling station, and other applied science projects. Children, staff, specialists and volunteers are enthusiastic about the Garden to Table programme, and view it as beneficial on a range of levels. Food preparation and gardening skills, food literacy and willingness to try new foods have increased. The programme is seen as fitting well with curriculum, and consolidating team work skills and development of social skills. The school has been proactive in seeking opportunities to promote the programme both internally within the school and with parents, families and the wider community. Like in most of the schools, volunteers have been difficult to source from the local community, and volunteers are considered a key part of the programme's success. Dawson's Primary has been fortunate to have been the recipients of financial assistance and volunteer labour from a range of organisations which has made development of the garden and kitchen and implementation of the programme easier. Staff and students are appreciative of the donations and of the work and effort that volunteers, the community and the school members (staff, specialists and students alike) put into the garden and programme to ensure its success.

Owairaka School

School Description

Owairaka School is a long-established Decile 2 school, serving a multicultural community in the suburb of Mt. Albert, Auckland. Diverse ethnic groups contribute to the school's roll of 344 students in Years 1 to 6, 13% of whom identify as Māori and 38% as Pacific. A special feature of the school is the strong focus on promoting environmental awareness, including involvement in environmental projects, both within and beyond the school.

The Garden to Table Programme

Owairaka School has high energy, enthusiastic students who are enjoying the Garden to Table programme immensely. The school does not have a purpose built kitchen for the Garden to Table programme but uses the kitchen facilities that are available. The kitchen coordinator organises the menu so that meals are nutritious and can be made easily in the time available, and high sugar foods are not cooked and served every week.

Some students are so enthusiastic about the Garden to Table programme that they volunteer to help during the lunch break. There are parent volunteers but when the researchers visited the programme was being run with the help of VFA (Volunteers from Abroad) students.

On October 28th, 2011 Michael Meredith from **Meredith's Restaurant** visited Owairaka School to harvest produce and cook with some of the children in the programme (see photo below)



Students attend the Garden to Table programme fortnightly. The class is split in two for the programme with half the class attending the kitchen class and half in the garden, before the whole class regroups to eat together. Before eating students write in a workbook, and during the meal pupils continue discussions about what they have learnt from the day's Garden to Table session. All the staff spoke of the opportunities the programme provided to practice and enhance core curriculum learning. However, there was also a fine balancing act to ensure that there was enough time for everything else that needed to be covered.

... it is a push fitting it in ... they go on a fortnightly basis now and it just makes it a bit easier to slot into the curriculum you have got to be just a bit careful that it doesn't take over because there is so much we have got to fit into the day. [Principal]

The Kitchen

The kitchen component of the programme started after the garden was established. The Kitchen specialist had volunteered at the school prior to being employed, and is enthusiastic about the Garden to Table programme.

At present the kitchen specialist and students are using a kitchen that is also the tuck shop. The kitchen specialist and students have been creative in adapting the kitchen to their specific needs, such as finding ways to do dishes that works for teams of children and the particular environment.

The Garden

The current garden specialist previously worked as a teacher at the school and is well known and liked by students and staff alike. The gardens were built with the assistance of a local 'Hire a Hubby' community day. As well as the edible gardens, there are a variety of attractive themed gardens within the school that reflect the diversity of cultures represented at the school (Indian garden, Japanese garden and others). The gardens are spaced throughout the school, and there are also chickens.

What is the quality of the programme with regard to its content, design and delivery?

Enthusiasm for and engagement in the programme

"I think it's a fantastic programme". [Garden specialist]

All the children, staff and volunteers were enthusiastic about the programme, believing it to be an excellent programme.

The programme is seen as bringing a range of benefits to the school. The programme fitted well with the school aspirations of being environmentally conscious and making learning enjoyable.

...our school has four overarching goals and one of the goals is that the children will be environmental active and it sort of fits nicely into that, we also believe in the school ...making learning fun and having a broad curriculum and so it fits totally into our whole school's philosophy...

We have been a enviro school for quite a long time ... and so for us the Garden to Table was a lovely progression and it was a way we could sustain all the things that we were doing because we've established quite a few gardens over the last while ...being part of the Garden to Table program has been a real sort of added bonus for us ...

... the parents are really pleased that it is a part of our curriculum and a part of our school program - they see it as something that is quite special and unique about the school - other successes are how excited the children are how hooked in they are to the learning... through Garden to Table we have got some .. good media contacts and we have had some famous people come in and the children have loved that. We had Bo Runga come last week to the Garden to Table ... [Principal]

Students were enthusiastic about the programme with most thinking the only improvement would be the opportunity to do it more frequently.

I actually like everything about Garden to Table. There's nothing I don't like about it.

It gives us a lot of education about food.

I wouldn't change anything if I could. [Children]



Children preparing food

The children enjoyed the opportunity to learn new skills in a different way.

... Garden to Table is a good programme, because it helps ... kids to...learn more stuff that they didn't know ... it's kind of like you're in the class but you're in a different place.... you're doing different thing from the class and ... it's a very good programme ... [Children]

Owairaka School has a range of gardens throughout the grounds and has been very active in creating gardens that reflect the diversity of the surrounding community and to continue to think of potential gardens for the school.

...we established a Zen garden and part of the funding we went and visited the Hamilton Botanic Gardens and while we were there we saw the Indian gardens .. so then we put the Indian one ...we have also have on our vision map to have a Pacific Island so we put that in last year and we put in a Pacifica garden.. now we are working on an African garden so we try to represent the different cultures ... [Principal]

The student and family involvement in the beautification and garden projects of the school was seen as contributing to increased community pride in the school and decreased vandalism.

...vandalism around the school has dropped incredibly, you know...since we've started to do Enviro projects, and the kids are really involved in the outdoor...environment... And I think that does translate to...telling their family and wider community that they're proud of their school, and... then that...respect in general. [Garden specialist]



Children gardening

Volunteers

Owairaka School has dedicated and enthusiastic volunteers who enjoy participating in the programme. Volunteers enjoyed the developing relationships with students, the student's enthusiasm, and found that they also learnt skills and increased their knowledge.

I grew up in a kind of a household we always had food but everything came from the Supermarket or we ate a lot of process food and you have no concept so every time I am in the garden I am learning and I find it fascinating that you can have parsley there or you can grow carrots and it is so easy. [Volunteer]

And I really like the kids how the relationship, we only come once a week but they know our names and you know you develop kind of that rapport with them over a couple of weeks where there is someone else besides the teacher that they want to hang out with oh come an look at this, come play with this how do I do this ... [Volunteer]

While being encouraging about trying to get other parents to volunteer and expressing the need for more volunteers they also were realistic that sourcing volunteers might be difficult, and that families were often stretched in how much time they could volunteer for the school.

We could do with more volunteers that's for sure, and I would say the only thing that is going to fix that is exposure and understanding you know. (but)... low decile area most of the parents are working so how are they going to volunteer you know you need a whole bunch of us but ...that's really tough around here [Volunteer]

Despite being busy, the volunteers said they got so much from volunteering with Garden to Table that it was well worth the time and effort.

I love it, I was thinking to myself the other day I think I will be volunteering for this until my youngest leaves Primary and I still will be volunteering when my kids are gone because I really like it actually... [Volunteer]

We do the best job in the whole world actually I look forward to doing it... [Volunteer]

Volunteers saw benefits for the whole community as well the children in the programme.

Basically we are helping invest in the future community...and also...taking part in...the future of the kids you know...[Volunteer]

The kitchen specialists commented on the integral role volunteers have in making the kitchen run easily and ensuring the programme's success.

...without the volunteers we would scrape along...certainly not as enjoyable for teachers or volunteers or the kids I wouldn't think without having those people because ...we separate them into groups of three or four and...then you can really focus on that group and...if we have got enough volunteers then I can float around each group and make sure they are doing everything right otherwise you are going to get stuck on one station and then I am not sure what is happening on the other station... [Kitchen Specialist]

Programme implementation

Early Successes

To what extent has the programme been successful in achieving its intended outcomes?

Short-term Outcomes

Knowledge and skills in gardening

The Garden to Table programme has increased knowledge and skills in gardening.

...we're learning how to plant and harvest vegetables carefully without like damaging their roots. [Children]

...the kids now know what are vegetables, what are plants, what are fruits...And what is needed to [grow] what goes in the soil, like the root, the heart of the plants, they know...writing...they ...write about why they grow a garden, why is it important to have a garden?...[Teacher]

The garden gives some students who may not be interested in other activities the opportunity to participate in school based activities.

...it give them an outlet at lunchtimes as well of something to do, you know, if you're not into sport and...you want to do something at lunchtime...I'd get tracked down by a handful of children every lunchtime...to do jobs. [Garden specialist]

The gardening aspect of the programme enhanced learning in other subjects and increased confidence.



Children gardening

Knowledge and skills in cooking

Children have developed a range of skills in cooking from having participated in the programme. Specifically mentioned was knife safety, measuring, following recipes and confidence. Knowledge and skills have improved significantly since the beginning of the programme.

...confidence in the kitchen...they are using the knives and knowing what a quarter of a cup is and what a cup is and we would say we need a cup of milk and they, you would

have the cup measure there and they would fill it up half way instead of just the cup you know right to the top and a teaspoon...getting them to know the difference between a teaspoon and tablespoon the abbreviations...tbsp and the tsp and we have had to throw a few cakes out that have had tablespoon of baking powder put in them (laughing) but they are getting there [Kitchen Specialist]

I think that it's...good...because now we know how, what temperature you need...when you fry something in a pan. It depends what you're frying. And how you put things into an oven, and how to put...muffin mixture into the trays. Um, how to use two spoons, and how to whisk better...[Children]

...they have really got confident in the kitchen, we are not having any knife cuts now and if we do it's a very little minor knife cut and ...I think it is the whole thing you know even from the garden like coming into the kitchen and knowing how to slice the vegetables and what operation to it what needs to be diced what needs to be chopped finely and it has been really good, big difference. [Kitchen Specialist]

Food literacy and willingness of children to try new foods

The programme was seen to enhance food literacy with pupils expanding their knowledge about a range of vegetables and food items.

Children, staff and specialists all commented on the increased willingness to try new foods. This also resulted in a decrease in the amount of food that was going to the compost since the beginning of the programme. Recipes reflected a range of diverse ingredients, and those interviewed commented on the changes in attitudes towards trying new foods since the beginning of the programme.

...the enthusiasm of the children, (the) change in attitude of a lot of children in regards to eating things that they, you know, that would've looked at at first and not eating that, and now...you can always tell children that have joined the programme late...for example moved here from another school and they just sort of sit there and look at some of the meals and, whereas most of the others dig in...I think that's a real success. [Garden specialist]

Participating in preparing meals and cooking was seen as encouraging children to eat food they may not normally try, and sometimes the new food end up becoming personal favourites.

...our experience with the Garden to Table is fantastic. The kids... some of them, they hardly eat greens. At the beginning of this programme- when we had...the greens on the tables, they hardly touch. They (said), 'oh, this tastes yuck.' But now...they're...eating...everything, the greens, they like the vegetables...because what they cook they eat... [Teacher]

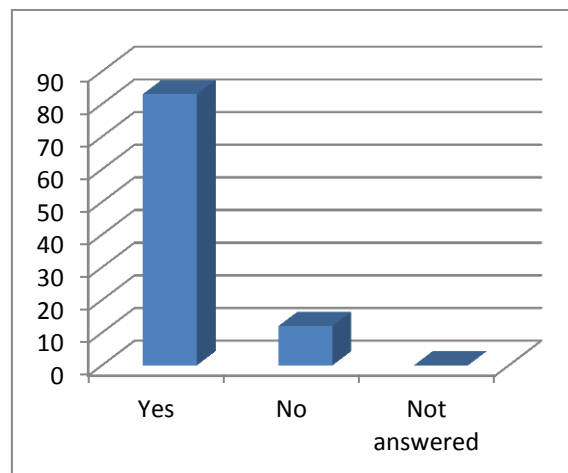
...try new things, even if we don't like. Because I, some things I don't like before and then I tasted them and I, like it actually became one of my favourite meals... [Children]

Some also thought there had been a benefit in influencing healthier eating habits within the school.

But we see carrots and celery in their lunchboxes. Yeah, which, before, oh, I hardly see a kid, you know, having those ones in, those veggies inside their lunchboxes. Yeah, carrots too.. [Teacher]

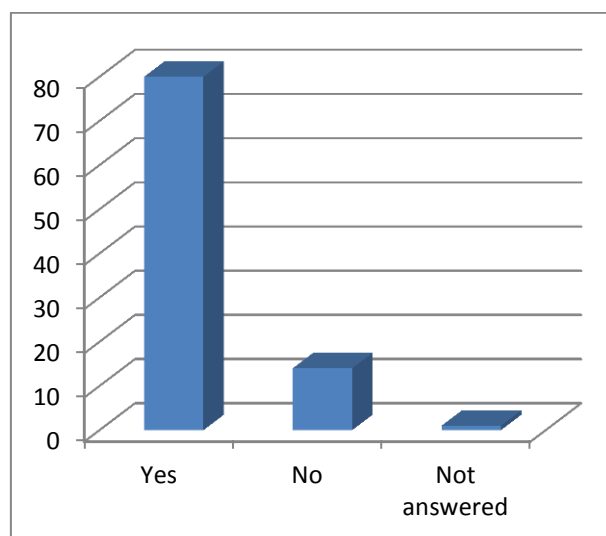
Survey findings also indicated children’s willingness to try new foods (n=83). Twelve were not willing to try new foods. (Figure 43)

Figure 43: Willingness to try new foods



Most children reported they were willing to eat foods they thought they did not like (n=80) since participating in the programme and 14 reported they were not willing to eat foods they thought they did not like. (Figure 44)

Figure 44: Willingness to eat foods you thought you didn't like



A convivial atmosphere where children prepare and share food

Those interviewed commented on the positive environment that was created when the children shared food. Students talked about the family atmosphere, and that they enjoyed the experience of eating together.

...it feels like there's a whole family of twenty-five children.

Yeah.

Yeah, it feels like we're one big family sharing a, like big meal.

Like a big feast.

Yeah, it feels like that every time we eat. [Children]

Communication about Garden to Table between school and community

Owairaka put a lot of effort into communicating with the community about the Garden to Table programme. The school made use of media opportunities that had occurred due to Garden to Table, and the Garden to Table programme had facilitated visits from celebrities. The Board of Trustees received regular reports about the programme including a book made by one of the specialists and students. More information is expected to be added to the website about the programme, and the garden specialist was planning a day for parents to come and participate in the programme.

Medium-term Outcomes

Life skills in the areas of cooking and gardening

Those interviewed saw the programme as contributing to skills in gardening and cooking that will be useful into the future.

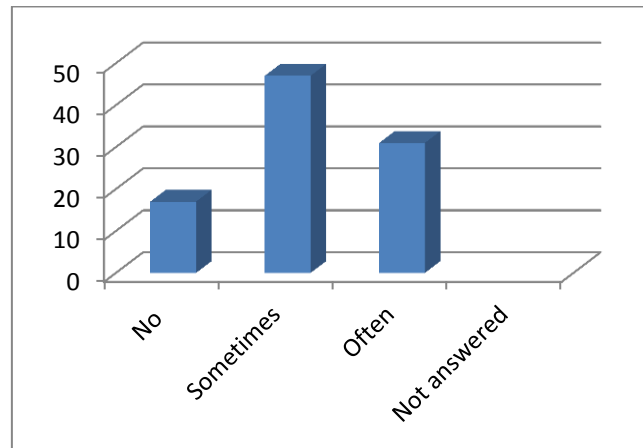
...they might not be having a good job, but the skills that they can use, you know, at home to raise a family, they've got all those skills to help themselves in the future when they go.
[Teacher]

Students are transferring the skills they learn in the Garden to Table programme to their homes, both through creating or assisting with gardening and with taking recipes to be prepared at home.

Another thing is they go home now and then they're starting to plant, to have their own, um, gardens at home, telling mum and dad, you know, and also the recipes, they take them home and they try.... [Teacher]

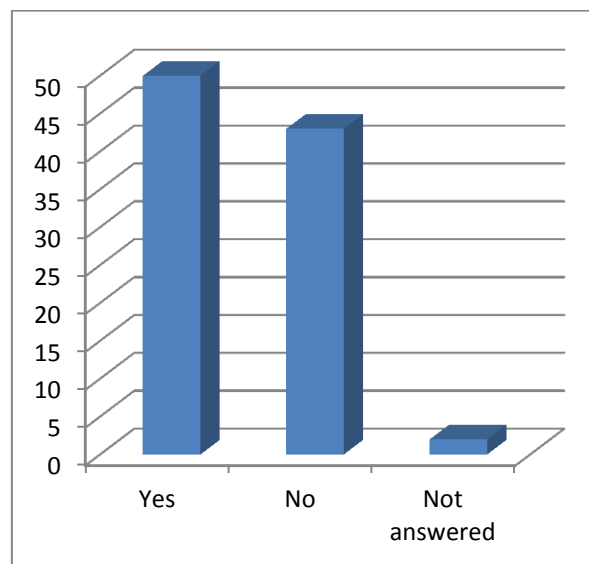
Most children reported they either cooked at home sometimes (n=47) or often (n=31) and 17 reported they did not cook at home. (Figure 45)

Figure 45: Cook food at home



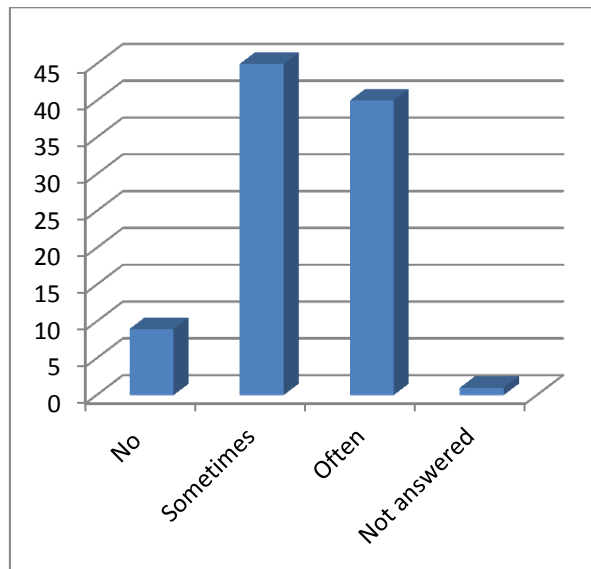
Children were also collecting recipes and helping to shop for food. Of the 95 children surveyed, 50 reported they collected recipes and 43 did not collect recipes. Two did not answer this question. (Figure 46)

Figure 46: Collect recipes



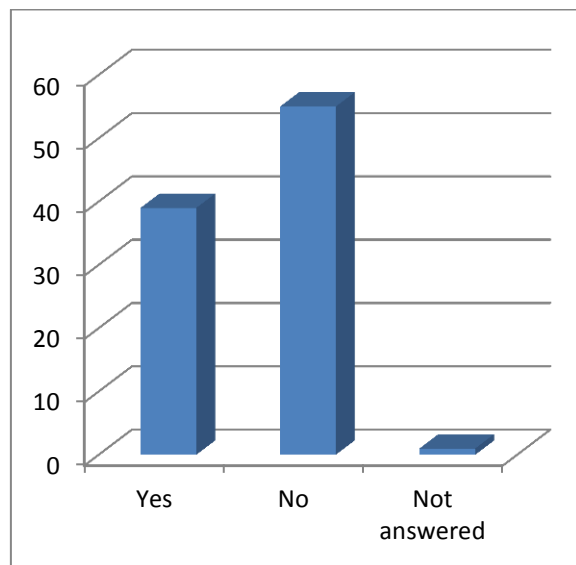
Most children were helping to shop for food either often (n=40) or sometimes (n=45). Only a few (n=9) were not involved in shopping for food. (Figure 47)

Figure 47: Children helping shop for food



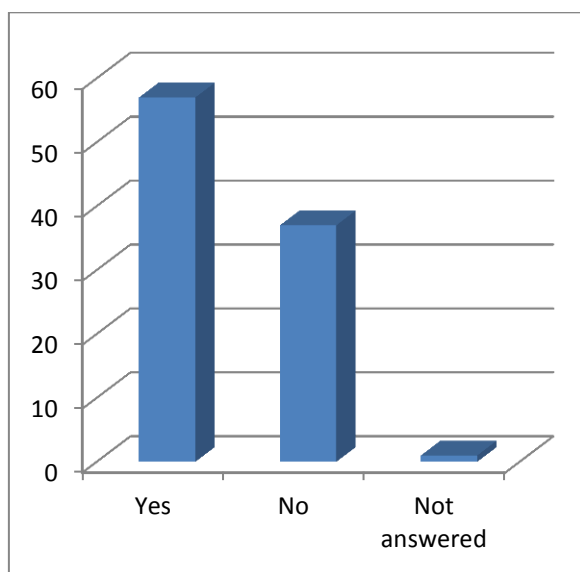
Children were asked if they had made a meal at home that they had made at school. Thirty-nine reported Yes and 55 reported No (Figure 48)

Figure 48: Make something at home that you have made at school



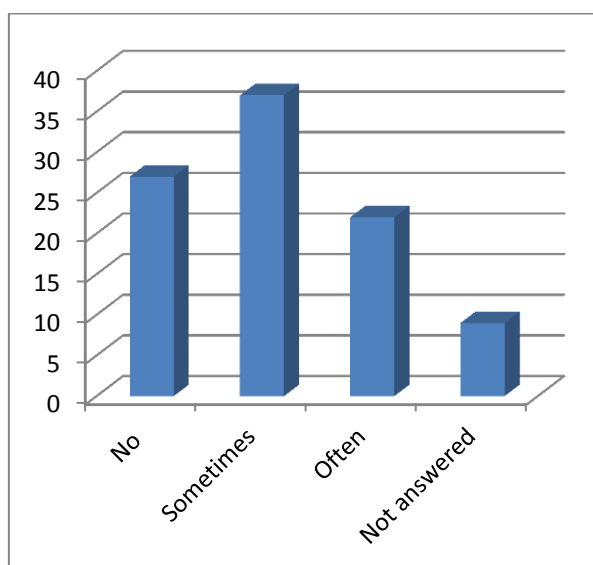
Over half the children (n=57) reported they had made a garden at home or somewhere outside of the school and 37 had not made a garden outside the school (Figure 49).

Figure 49: Children make a garden at home or somewhere outside of school



Over two thirds of children were engaged in gardening at home either sometimes (n=37) or often (n=22). Twenty-seven children reported they did not garden at home (Figure 50).

Figure 50: Children garden at home



Children were also asked if they would use the gardening and cooking skills they had learnt in the future. Most children reported they would use the gardening skills (n=80) and cooking skills (n=84) in the future. A few reported they would not use gardening skills (n=13) and cooking skills (n=9) in the future. (Figures 51 and 52)

Figure 51: Use gardening skills learnt in the future

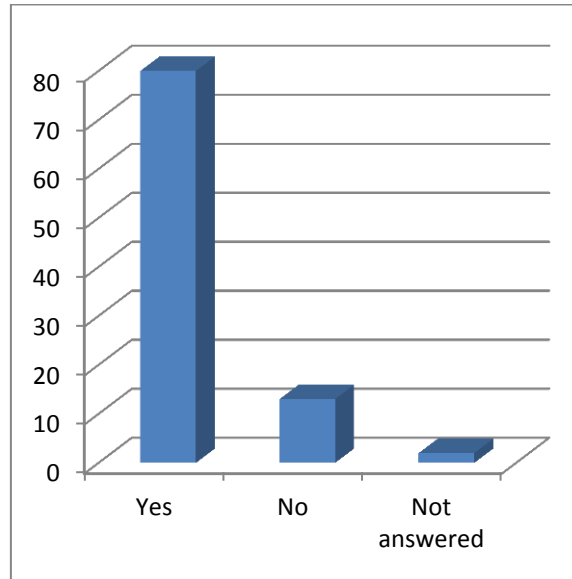
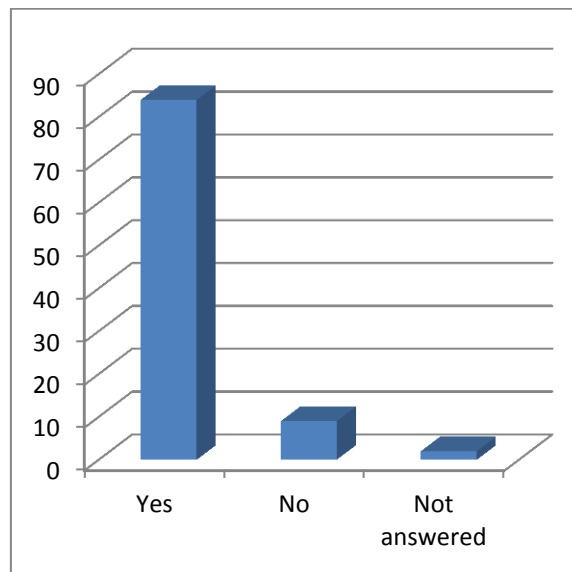


Figure 52: Use cooking skills in the future



Staff thought that the programme offered opportunities to consolidate curriculum based learning and skills, and that it gave students an opportunity to be extended, or learn at levels that were comfortable to the student.

...as the kumara were being harvested...there was a group of children weighing them and...recording the weight, and then another group of children added up all the weights

and got the grand total, and then worked out, you know, one of the volunteers had just bought kumara and had paid four dollars a kilo, or something like that...so then they multiplied...how many kilos we had and how much that would've cost at the shops...
[Garden specialist]



I think it suits all of them because it just is a program that any child any level can slot into and whatever their capabilities are there is nothing they are incapable of but they can go a little bit further from ones that are capable, I remember last year when our garden specialist started she was doing measuring the ph in the soil and things with some of the children and so there were things at that level and then there are things at the lower level as well. [Principal]

Social connections and social skills through working together to grow, prepare and share food

Owairaka staff saw the programme as contributing to a range of positive benefits for the students. Students who were unenthusiastic about academic learning had opportunities to show prowess and knowledge, the programme gave opportunities for students who did not know each other to work together, and the programme was seen to encourage patience, communication and team work.

...all the maths links and the language links...all the other life skills, like working together, you know, having to learn to work with a volunteer, listening to other adults, yeah, working as a team, just, you know, and things like patience and those sort of things.
[Garden specialist]

Um, when you want to work with your best friends you can't, because they split you up with other ... people, and when you...work with them they're alright [Children]

Garden to Table is supported by the community

Garden to Table is supported by the school and greater community however significant time and energy resources are put into ensuring the continuance of the programme by staff. While the current volunteers are extremely positive about the programme, like the other schools, Owairaka has found sourcing volunteers from the local community difficult. Staff did not think it would be fair or feasible to expect parents to fund their children through the programme. Funding for the programme cannot be provided by parents or the surrounding community, and concern was expressed by staff about how to secure financial support for the programme (and particularly wages).

Concluding Comments

Garden to Table programme has been enthusiastically received at Owairaka School, and is seen as adding a range of benefits to the school, community and pupils. The programme enhances the key aspects of the school of making learning fun and encouraging environmental sustainability. The Garden to Table programme has been successful in meeting short and medium term goals. The students have increased their knowledge and skills in cooking and gardening, there is an increase in the willingness to try different foods, and the environment while sharing food is convivial and warm. Some students were transferring their skills to their home environments, and many staff and volunteers thought the programme had the potential to have long term positive impacts. There are opportunities for increased connections between students, parents, volunteers and the school, and increased learning opportunities due to the programme. Like other schools, there were concerns about finding volunteers and sustainable funding for the programme in the school. Staff, including the kitchen and garden specialists often put extra resources into ensuring the programme's success such as putting in extra hours, seeking out funding opportunities and community support and investing in their own professional development as they were so passionate about the programme. All the children, staff and volunteers were enthusiastic about the programme, believing it to be an excellent programme.

Moanataiari Primary School

School Description

Moanataiari School is a Decile 5 school situated at the north-western end of Thames and caters for 112 students in Years 1 to 8. Over half the roll is Maori, the school roll is 81, with 39 Maori, 30 New Zealand European, 7 South African and 5 Other. There are five teaching staff. The school is well-resourced and staff are provided with a wide range of opportunities for professional development in the teaching of literacy, numeracy and the uses of information and communication technologies (ICT) to enhance students' learning. The recently revised school charter and strategic plan clearly state the Board of Trustees vision for the future development of the school.

The Garden to Table Programme

Moanataiari School is the Trust's first subscriber school. The school started a garden over two years ago as a "health promoting project". The garden was built by a local organic farmer and landscaper, with input from the children. Raised beds were necessary because the school is in a gold mining town and is built on gold tailings. The school then became a subscriber school to the Garden to Table programme. There is a new kitchen classroom which opens out onto a courtyard. The school intends to have the courtyard as an outdoor eating area with a barbecue. The vegetable garden has been created with adobe brick walls and the Principal subscribed to the programme as a way to best use these resources.



Moanataiari School's adobe edged garden and green house

The New Zealand Gardener published an article about the school's Garden to Table programme and a survey with children found that over half preferred home-made food to takeaways.

After lunch one day the teachers... ran a survey to find out what the pupils thought of the food they'd just eaten. They had just polished off frittata, cooked [by them] with veges grown [by them]. The question being: was it better than takeaways? Over half the kids said yes, preferring homegrown produce to burgers and fries. [New Zealand Gardener]

Unfortunately, at the end of 2011 the school was found to have levels of arsenic in the soil which were above what is considered safe. This was due to the school being established very close to a gold mining area in Thames. As a result, the gardens have been dug out, will be re-established with a clay base and new soil and replanted. The Principal was hoping the garden would be functioning early in 2012. Students were continuing to participate in cooking sessions using other sources of ingredients.

One of the evaluators visited the school in October, 2012 and the gardens had been re-established and crops were being produced. The programme had restarted at the beginning of Term Three. The following photographs show the reconstruction and establishment of the gardens.



Excavating the gardens



The reconstructed gardens being blessed

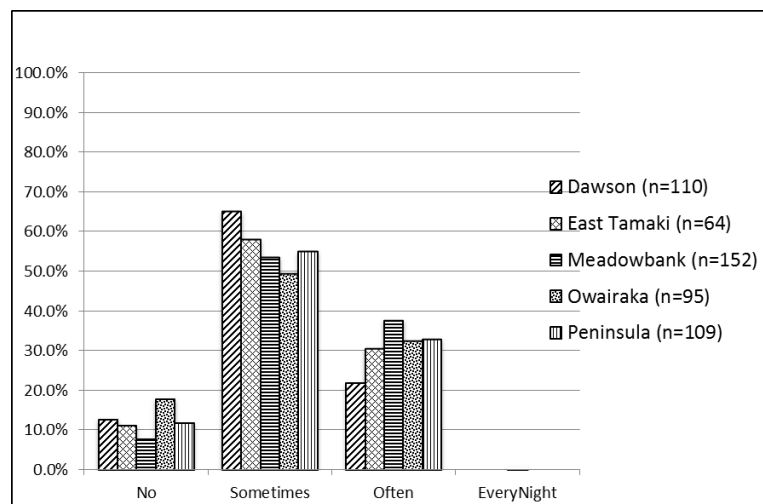
5.0 Survey findings by school

The following figures show the quantitative survey findings by school. Numbers of children responding in each school varies by question due to some children not answering some questions.

Children who cook at home

Survey findings indicated that one third (31.7%) of children were cooking at home often, over half (55.1%) were cooking at home sometimes and a few (12%) were not cooking at home. More children (37.7%) at Meadowbank school were cooking at home often compared to the other schools and more children (17.9%) at Owairaka were not cooking at home (Figure 53).

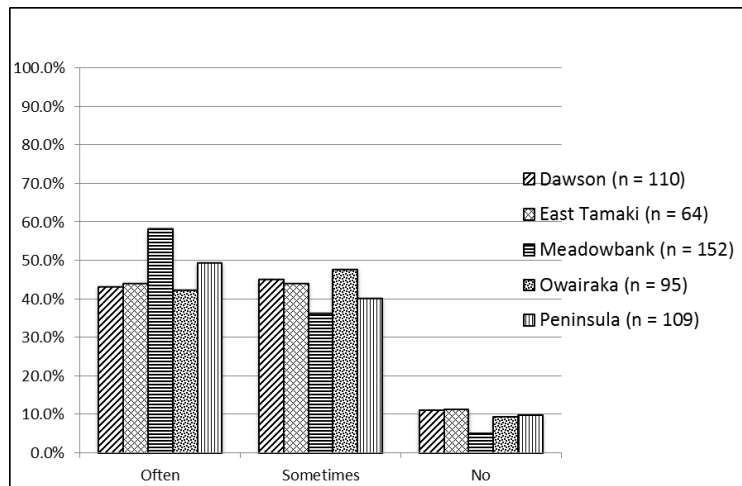
Figure 53: Children who cook at home



Children who help shop for food

Almost half (48.9%) of the children helped shop for food often, 42% helped shop for food sometimes and 9% did not help shop for food. More children (58.3%) at Meadowbank school helped shop for food often.

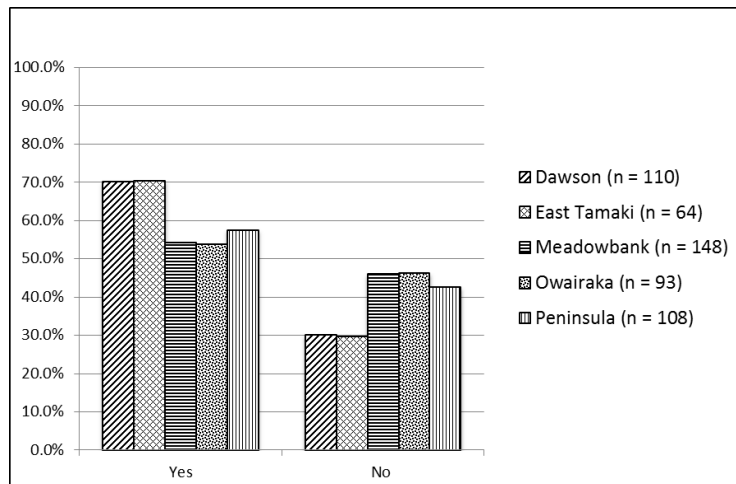
Figure 54: Children who help shop for food



Children collecting recipes

Over half the children (61%) were collecting recipes and 40% were not collecting recipes. More children at Dawson (70%) and East Tamaki (70.3%) were collecting recipes than at the other three schools.

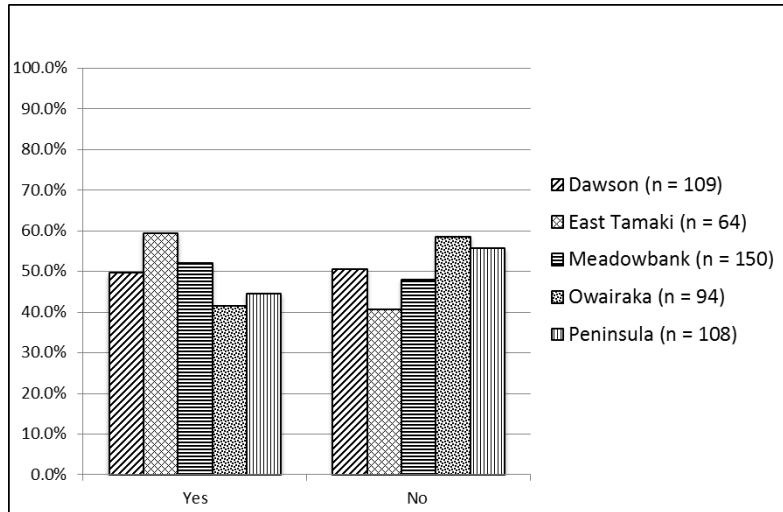
Figure 55: Children collecting recipes



Children making a meal at home that they have made at school

Half (49%) the children reported they were making a meal at home that they had prepared at school and half (51%) reported they were not making a meal at home using recipes prepared at school. More children (59.4%) at East Tamaki were making a meal at home that they had prepared at school. Results for the other four schools were similar.

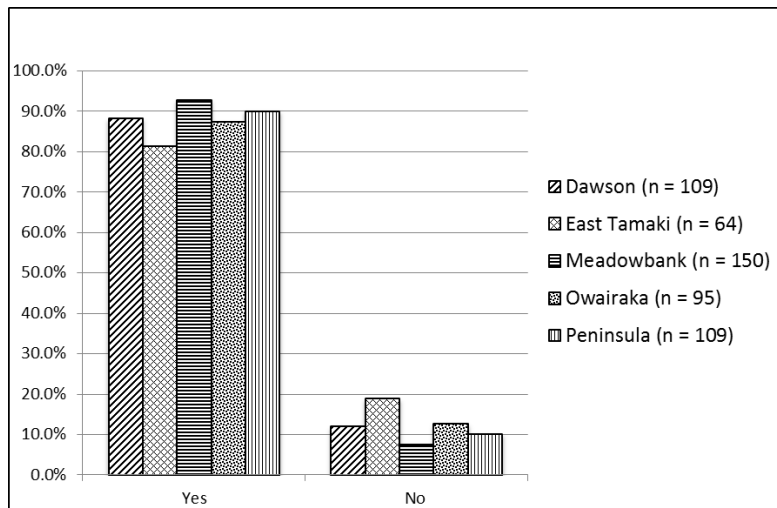
Figure 56: Children making a meal at home that they have made at school



Children's willingness to try new foods

Most children (88%) in the five schools reported they were willing to try new foods they hadn't tried before. More children (18.8%) at East Tamaki reported they were not willing to try new foods compared with the other four schools.

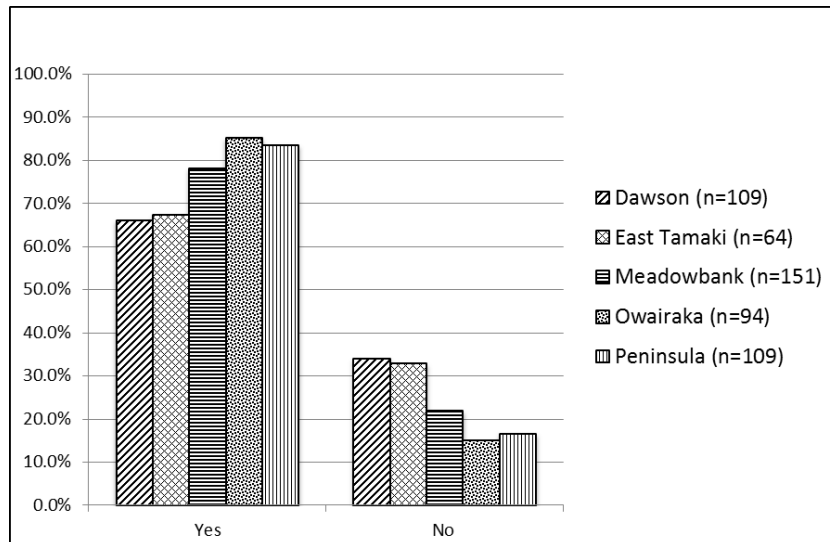
Figure 57: Children's willingness to try new foods



Children’s willingness to eat food they thought they didn’t like

Three quarters (76.7%) reported they would eat foods they thought they did not like and approximately one quarter (23.3%) were not prepared to try foods they thought they did not like of children. Children at Owairaka (85.1%) and Peninsula (83.5%) schools were more likely to eat foods they thought they did not like.

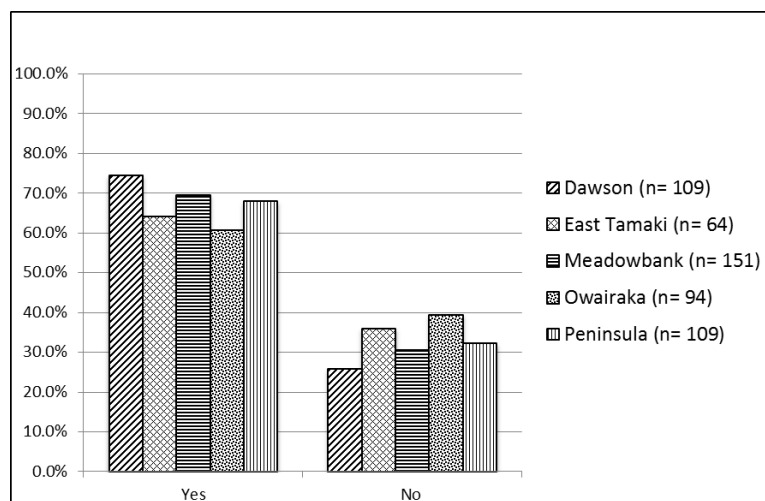
Figure 58: Children’s willingness to eat foods they thought they didn’t like



Make a garden at home or somewhere outside of school

Approximately two thirds (67.9%) of children reported having made a garden at home or somewhere outside of school and a third (32.1%) had not made a garden. More children at Dawson (74.3%) had made gardens compared with the other four schools.

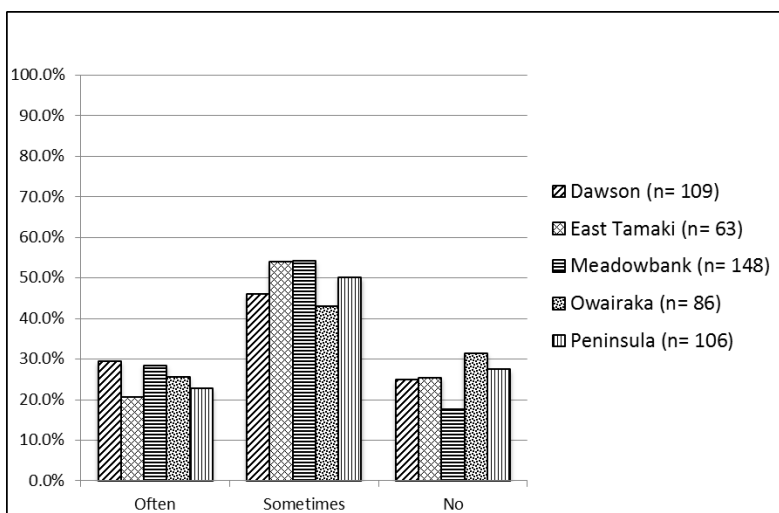
Figure 59: Make a garden at home or somewhere outside of school



Children gardening at home

Twenty-six percent of children reported gardening at home often and half (49.6%) were gardening at home sometimes. More children at Meadowbank were gardening at home either sometimes (28.4%) or often (54.1%).

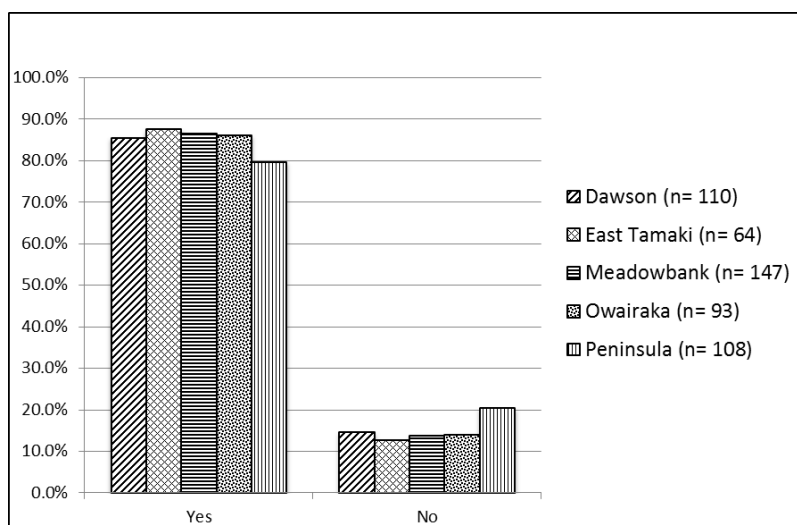
Figure 60: Children gardening at home



Children using gardening skills learnt in Garden to Table in the future

Most children (84.9%) reported they would use the gardening skills learnt in Garden to Table in the future. Results were similar across the five schools.

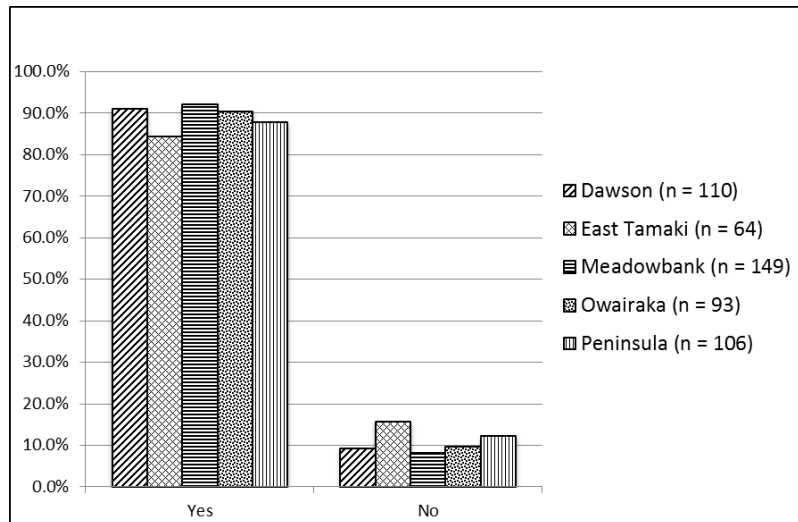
Figure 61: Use gardening skills learnt in Garden to Table in the future



Children using cooking skills learnt in Garden to Table in the future

Most children (89.7%) reported they would use cooking skills learnt in Garden to Table in the future. More children (15.6%) at East Tamaki reported they would not use the cooking skills learnt compared with the other four schools.

Figure 62: Use cooking skills learnt in Garden to Table in the future



In summary the findings are mostly similar across the five schools which could be an indication of the excellent quality of programme implementation and the commitment schools have made to enabling children to participate in the Garden to Table programme.

6.0 Findings from children's drawings about Garden to Table

Children were asked to draw something about their experience of the Garden to Table programme at the end of the survey. The drawings, from the five schools, were coded and sorted into themes. In total there were 520 drawings and some of these have been selected to represent each of the themes.

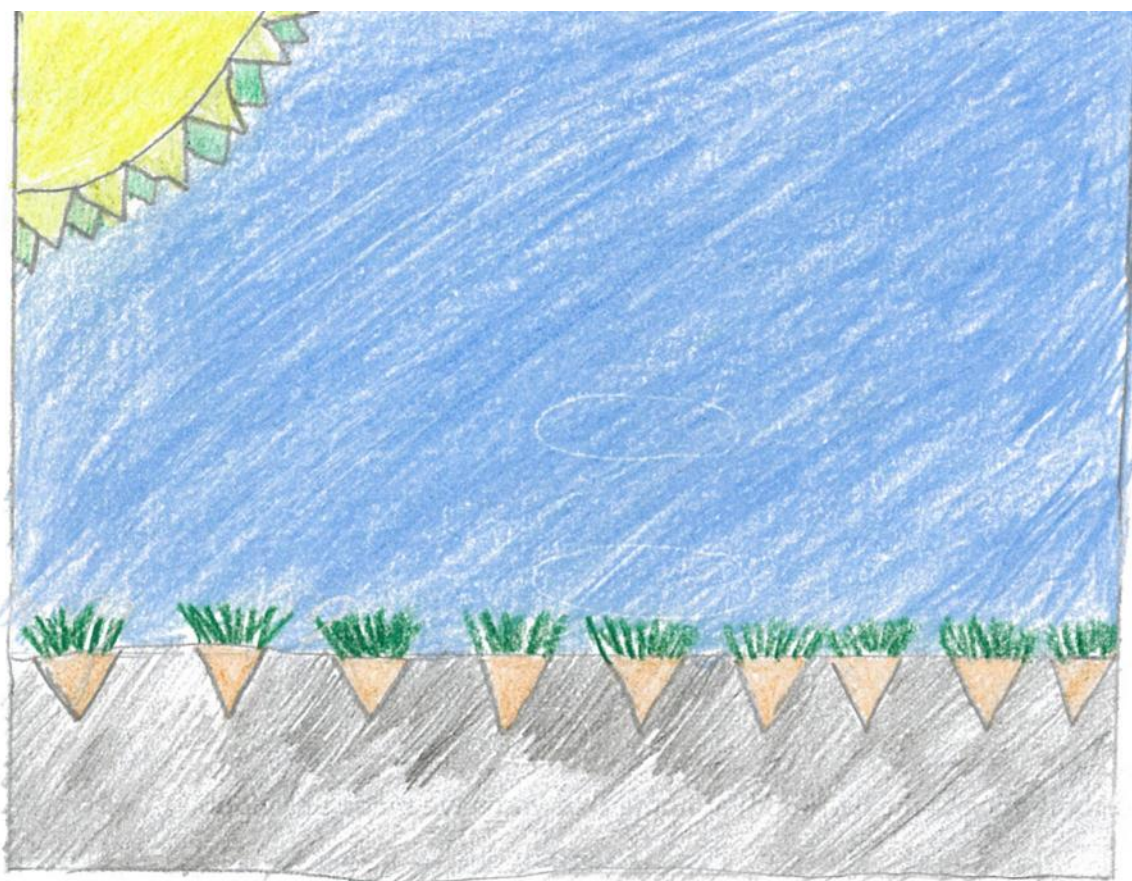
Most of the drawings related to safety with knives and equipment, the skills children had learnt in the garden such as harvesting plants, fertilising, pest control methods and what plants need to grow, skills of cooking and food preparation, knowledge of recipes and their willingness to try out new foods. Some drawings represented children working together as a team, eating together and the social aspects of gardening and cooking. Children's comments and drawings also showed that children were enjoying the Garden to Table programme and were practising the skills learnt at home and were sharing skills with others.

Safety with knives and equipment



Gardening skills

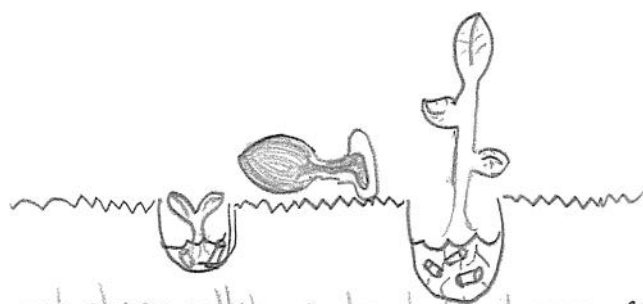




In the garden Kayolyn
told us what you can
use to help plants
to grow.



This is a compost it is were
 you dump your food scraps and is
 good for plants



I learnt to put sheep pellets in to help it grow and to
 put a trough width apart from each plant



Chop! Chop! Oh i'm just chopping
the vegetable. If you go to
cooking make sure you don't
cut your self when you
are cutting.




Hi guys I'm Prashneel the one that's standing up and holding the knife. this is me doing cooking and I am cutting the onions.

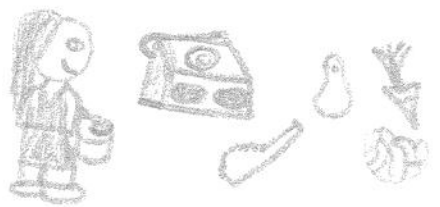
Knowledge of recipes



I learnt how to bake cookies at cooking class.

Willingness to try out new foods

 I learnt
= new and
eatable
flowers =
Borage & calengila

 = I learnt
new vegetables
like eggplant

"
I learnt heaps
of cool new healthy
recipes

Working together as a team

✓ ✓ ✓ ✓
Cooking



I have learnt to work as a team
when you're cooking.



We work as a team at the Gardens.

Sharing food



This is me cooking for the gardeners on inside.

Practising skills at home



I love COOKING at home.
It is my favorite thing to do at home.
I can't wait to go and COOK at home
With my family.

7.0 Overall evaluative conclusions

What is the quality of the programme with regard to its content, design and implementation?

The case studies provide clear evidence that the Garden to Table programme is of high quality with regard to its content, design and implementation, therefore the rating is **excellent**.

Table 6: Performance rating for programme quality

| Rating | Explanation (how merit is decided) |
|------------------------------|--|
| Excellent | Performance is clearly very strong or exemplary performance in relation to the question. Any gaps or weaknesses are not significant and are managed effectively |
| Very good | Performance is generally strong in relation to the question. No significant gaps or weaknesses, and less significant gaps or weaknesses are mostly managed effectively |
| Good | Performance is inconsistent in relation to the question. Some gaps and weaknesses. Meets minimum expectations/requirements as far as can be determined |
| Poor | Performance is unacceptably weak in relation to the question. Does not meet minimum expectations/requirements |
| Insufficient evidence | Evidence unavailable or of insufficient quality to determine performance |

To what extent has the programme been successful in achieving its intended outcomes?

There is clear evidence that children have gained knowledge and skills in gardening and cooking. Since participating in the programme most children indicated their willingness to try new foods which was quite different to when they first joined the programme. In most schools, children were cooking at home with sometimes or often, they were helping to shop for food and were trying out recipes they had made at school. Many children also reported they were gardening at home and that they would use their gardening and cooking skills in the future. While it is likely that some children were engaged in some of these activities prior to participating in Garden to Table, focus group and survey findings indicated participating in the programme had enhanced their enthusiasm for gardening and cooking both at school and at home. The achievement of outcomes is therefore rated as **excellent**.

Table 7: Performance rating for outcomes

| Rating | Explanation (how merit is decided) |
|------------------------------|--|
| Excellent | Performance is clearly very strong or exemplary performance in relation to the question. Any gaps or weaknesses are not significant and are managed effectively |
| Very good | Performance is generally strong in relation to the question. No significant gaps or weaknesses, and less significant gaps or weaknesses are mostly managed effectively |
| Good | Performance is inconsistent in relation to the question. Some gaps and weaknesses. Meets minimum expectations/requirements as far as can be determined |
| Poor | Performance is unacceptably weak in relation to the question. Does not meet minimum expectations/requirements |
| Insufficient evidence | Evidence unavailable or of insufficient quality to determine performance |

To what extent is the programme in keeping with the spirit of the Stephanie Alexander philosophy?

In order to operate the Garden to Table programme according to the Stephanie Alexander philosophy there needs to be a solid infrastructure and resourcing for schools. In setting up the pilot project the Trust provided funding for fully funded schools for salaries for the kitchen and garden specialists and some infrastructure costs. However, school managers were concerned about future sustainability of the programme.

With regard to implementation, it is clear that the way in which the Garden to Table programme is implemented that it is in keeping with the spirit of the Stephanie Alexander philosophy. All schools have established flourishing gardens where the children are engaged in preparing, planting, nurturing, harvesting and preparing food. Three schools have established kitchens and have space for the children to share food together. The other schools are using other facilities such as the hall kitchen or facilities in the art room which while not ideal, still provide children with the opportunity to prepare and share food using seasonal products. Cooking and gardening specialists are employed to implement the classes and the programme has been adopted as an ongoing programme within the pilot schools. The staffing model enables children to work in the garden and kitchen with specialist staff, community volunteers and the classroom teacher. The specialists work closely with the teaching staff to plan activities and menus that are integrated into the curriculum. Planning is organised around the garden's seasonal growing cycles.

Performance rating

The programme is rated as **very good** with regard to being implemented in keeping with the spirit of the Stephanie Alexander philosophy

Table 8: Performance rating for programme philosophy

| Rating | Explanation (how merit is decided) |
|------------------------------|--|
| Excellent | Performance is clearly very strong or exemplary performance in relation to the question. Any gaps or weaknesses are not significant and are managed effectively |
| Very good | Performance is generally strong in relation to the question. No significant gaps or weaknesses, and less significant gaps or weaknesses are mostly managed effectively |
| Good | Performance is inconsistent in relation to the question. Some gaps and weaknesses. Meets minimum expectations/requirements as far as can be determined |
| Poor | Performance is unacceptably weak in relation to the question. Does not meet minimum expectations/requirements |
| Insufficient evidence | Evidence unavailable or of insufficient quality to determine performance |

8.0 Concluding comments and next steps

There is evidence the Garden to Table programme is filling a gap in children's learning in relation to gardening and cooking, skills that may have skipped a generation or been lost due to an increasing emphasis on fast foods, technology and households where both parents work. It is clear that the programme has initiated children to a wide variety of garden produce which they are then harvesting and preparing for shared meals. They are also showing willingness to taste new foods. There appear to have been a range of beneficial outcomes from the programmes implementation in the schools including greater social cohesion within the classes and schools; increased engagement of tactile and experiential learners; increased opportunities for parents, volunteers and communities to engage with the school; opportunities for intergenerational and inter-community learnings; and enhanced food literacy.

The issue of enlisting volunteers is of concern. In one school the volunteer base has diminished over the two years and despite varied and strenuous efforts to engage more volunteers from the greater community the volunteer numbers remain low. In other schools there are quite large numbers of volunteers, however many of the volunteers are not from the neighbourhood in which the school is based. While there are positive cross-community opportunities for learning (student to volunteers and volunteers to students) through this arrangement, it does raise issues of sustainability of programmes that lack parental or local community involvement. In addition, a mixture of volunteers that reflects diversity and the demographics of the local community may be beneficial on a range of levels. In saying this, volunteers in all sectors are increasingly difficult to find and many schools are facing issues of fluctuations in volunteer attendance or could do with more regular parent volunteers, so any volunteer assistance is gratefully received. In some schools the garden and kitchen specialists are also from other communities. This may be necessary if there are no viable candidates for the position locally, however, training for the positions could perhaps potentially be provided. Nevertheless, the current kitchen and garden specialists are highly dedicated and often work above the funded hours and beyond the call of duty to ensure the children are well catered for and the programme is a success.

It is also clear that the programme requires substantial resources to sustain the kitchen and garden specialists, maintain a flourishing garden and ensure the kitchen is well-equipped. Schools were funding the programme in a variety of ways over and above what the Trust was able to provide and in one school there was lack of clarity as to what was being funded by the Trust.

The schools were communicating with their local communities and parents about the programme and one school had a particularly vibrant and engaging website for children and parents to access. The school staff, students, volunteers and specialists are enthusiastic about the programme and have high levels of commitment to the programme.

As a result of these findings the next steps could include:

- examining the actual costs of implementing the Garden to Table programme in schools including the time spent by the kitchen and garden specialists that is beyond their paid hours
- exploring ways to ensure the programme is supported by volunteers in the local community to ensure community ownership and providing training for volunteers
- addressing issues relating to sustainability as the positive outcomes indicate this is a valuable school-based programme that engages and provides children with hands-on experiential learning in small groups
- continuing to offer the Garden to Table programme to schools nationally given the excellent outcomes for children

9.0 References

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Appendix Garden to Table Student Survey



Garden to Table student survey



Hello, we Pauline Dickinson and Amanda Gregory from the SHORE and Whariki Research Centre are interested to hear about what the Garden to Table Programme has been like for you.

We are interested to know if the Garden to Table programme has helped you be interested in or do any of the following. Please circle on word for each question.

1. Cook at home?

No

Sometimes

Often

2. Help shop for food?

No

Sometimes

Often

3. Collect recipes?

Yes

No

4. Make something (a meal or food) at home that you have made at school?

Yes

No

5. Try new foods that you haven't tried before?

Yes

No

6. Eat foods you thought you didn't like?

Yes

No

7. Make a garden at home or somewhere outside of school?

Yes No

8. Garden at home?

No Sometimes Often

9. Do you think you will use the *gardening* skills you learnt in Garden to Table in the future?

Yes No

10. Do you think you will use the *cooking* skills you learnt in Garden to Table in the future?

Yes No

11. Can you please draw us a picture of something you have learnt about gardening and / or cooking from the Garden to Table programme and write what your picture is about?