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Combining realism with rigour: evaluation of a national kitchen garden program in Australian primary schools

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Combining realism with rigour: evaluation of a national kitchen garden program in Australian primary schools

Abstract

Overview

- Background on Program

- Overview of evaluation framework & methods

- Findings: Outcomes

- Findings: Program learning - Health Promoting Schools

- Questions

Keywords

combining, australian, schools, program, garden, kitchen, primary, national, evaluation, rigour, realism

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Combining Realism with Rigour:

Evaluation of a National Kitchen Garden Program in Australian Primary Schools

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Condon-Paoloni D, Dawber J, Eckermann S, Fildes D,

Grootemaat P, Morris D, Nielsen W

ahsri.uow.edu.au/chsd/projects/stephaniealexander/index.html

AES International Conference, 6 September 2013

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Overview

- Background on Program
- Overview of evaluation framework & methods
- Findings: Outcomes
- Findings: Program learning
  - Health Promoting Schools
- Questions

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Evaluation questions:

1. Has the Program influenced students' lifestyle behaviours, eating habits and food choices?

2. Has the Program contributed to student learning in Key Learning Areas, attendance patterns and social behaviours within the school environment?

3. Has the Program had an impact on students or community members that may be identified as at risk of social exclusion and, if so, what is the attribution? How can the National Program better support the social inclusion agenda?

4. What are the enablers and barriers to participation in and sustainability of the Program? How can these be better harnessed and/or overcome?

5. What has been the return on investment to the Australian Government, students and the school community?

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Stephanie Alexander KITCHEN GARDEN FOUNDATION

Growing Harvesting Preparing Sharing

The Stephanie Alexander Kitchen Garden Foundation Philosophy

The aim of the Stephanie Alexander Kitchen Garden Foundation is to introduce pleasurable food education into as many Australian primary schools as possible.

Our Program emphasises the flavours as well as the health benefits of fresh, seasonal food.

Dishes cooked reflect the vegetables, herbs and fruits grown, season-by-season, by the children in their organic gardens.

Our specialist instructors emphasise balance and moderation, and endorse the concept of preparing fruit-based desserts 'sometimes' only.

The Program is designed to be fully integrated into the primary school curriculum as it offers infinite possibilities to reinforce literacy, numeracy, science, cultural studies and all aspects of environmental sustainability.

In addition, the Program delivers observable social benefits to all students, including those with special needs.

.....

The published results of the Victorian Program evaluation by Deakin University in concert with the McCaughey Centre at the University of Melbourne showed that this Program positively influences the behaviour of children. Those children in the Program were more willing to try new foods than those in the control group, and while transfer of Program benefits to the home environment was not one of the goals of the Program, it is emerging as a flow-on benefit.

A national evaluation is being planned at the moment to be undertaken by the University of Wollongong. Its results are expected in June 2012.

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Background: SAKGNP

2008 the Australian Government committed $12.8 million – for school K & G infrastructure, state-based project officers, training & website

[+ $1m to Foundation for curriculum materials]

- 178 primary schools; 4 stages / groups of schools
- **Schools -**
  - Grades 3-6 (aged 8 – 12 years)
  - 40 mins garden classes
  - 90 mins kitchen classes each week/fortnight
  - integrated with classroom curriculum
  - involving of wider school community
  - Program coordinator (teacher) + p/t kitchen & garden specialists

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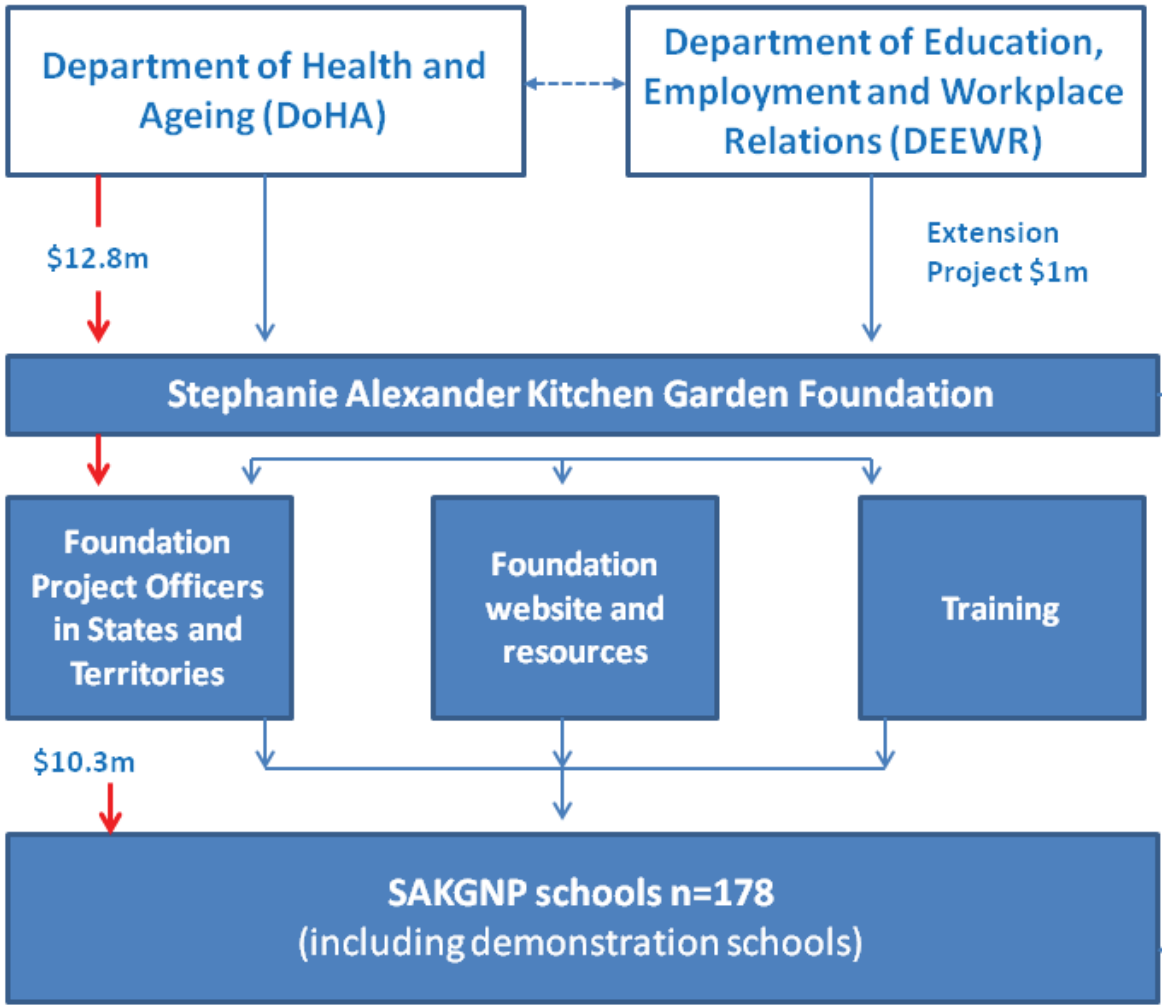
Background: SAKGNP



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http://www.kitchengardenfoundation.org.au/

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Background: The Context of the Evaluation

- **WHO** global strategy on diet, physical activity and health; health promoting schools
- **Australian National reform agenda** - reduction in the prevalence of key risk factors that contribute to chronic disease is a primary focus
- **Australian National Partnership Agreement on Preventive Health** - support a variety of initiatives of which one aims to encourage children to adopt healthy lifestyles through physical activity and healthy eating programs
- $289.5 million for programs in early childhood education and care environments; **Healthy Active Australia Community and Schools Grants Program**; $55million; 500 schools and community-based organisations to run local programs promoting healthy and active lifestyles.

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Background – Health Promoting School Framework – key features:

- Supported by **leadership staff**;
- Comprehensive and influence **all aspects of the school environment** and curriculum and are supported by policies;
- **Involve** the whole school community in all aspects of the program;
- **Comprehensive** in nature with a wide focus. e.g. health issues, personal and social wellbeing and development, health literacy and health promotion;
- Based on **partnerships** between all members of the school community that extend outside the school to include the wider community, health workers and other organisations;
- **Resourced** adequately with human and material resources including time for developing relationships; and
- Delivered in accordance with teaching and learning strategies including **active participation**, and the development of **life skills** as well as **knowledge**

(Women's and Children's Health Network 2011).

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Evaluation framework – CHSD:

- Level 1: assesses the impact on, and outcomes for, the targeted group (i.e. primary school students and their families);
- Level 2: assesses the impact on, and outcomes for, providers (i.e. teachers, volunteers, schools)
- Level 3: assesses the impact on, and outcomes for, the system (i.e. investment in and support for health promotion programs in schools).

EVALUATION HIERARCHY	What did you do?	How did it go?	Can you keep going?	What has been learnt?	Are your lessons useful for someone else?	Who did you tell?
	PROGRAM / PROJECT DELIVERY	PROGRAM / PROJECT IMPACT	PROGRAM / PROJECT SUSTAINABILITY	PROGRAM / PROJECT CAPACITY BUILDING	PROGRAM GENERALISABILITY	DISSEMINATION

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Evaluation

- **Level 1:** assesses the impact on, and outcomes for, the targeted group (i.e. primary school students and their families);
  - Has the Program influenced student's lifestyle behaviours, eating habits and food choices?
  - Has the Program contributed to student learning in Key Learning Areas, attendance patterns and social behaviours within the school environment?
- **Level 2:** assesses the impact on, and outcomes for, providers (i.e. teachers, volunteers, schools)
  - Has the Program had an impact on students or community members that may be identified as at risk of social exclusion and, if so, what is this impact?
  - What are the enablers and barriers to participation in and sustainability of the Program (at the individual school level)? How can these be better harnessed and/or overcome?
- **Level 3:** assesses the impact on, and outcomes for, the system (i.e. investment in and support for health promotion programs in schools).
  - How can the National Program better support the social inclusion agenda?
  - What are the enablers and barriers to participation in and sustainability of the Program (at the national level)? How can these be better harnessed and/or overcome?
  - What has been the return on investment to the Australian Government, students and the school community?

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Evaluation – plan:

Initiative Schools (N=28)

- Kitchen & garden classes run >1 year; not Victoria
- Geographic region:

  Metropolitan, Provincial, Remote and Very Remote

  (Schools Geographic Location Classification Scheme of the Ministerial Council for Education, Early Childhood Development and Youth Affairs – MCEECDYA).
- Socioeconomic level:

  Index of Community Socio-Educational Advantage (ICSEA) –

  'High' >ICSEA score (1000)

  'Low' <ICSEA score (1000)
- School size:

  Very small (50 or fewer students);

  Small (51 - 199 students);

  Large (200 + students)

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Evaluation – plan:

Comparison Schools (N=14)

- Stage 4 schools; same profile as Initiative schools

Demonstration Schools (N= 6)

- One per State / Territory
- Special funding; act as hub to support other SAKGNP schools in that jurisdiction

SAKG Foundation

- Website; support materials ($1m - DEEWR); workshops & training
- Coordinators in each jurisdiction

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Evaluation – data sources

3 and 9 month school reports to the Foundation:	all initiative & demonstration schools
National workshops and webinars:	initiative and demonstration school staff
My School website:	initiative and comparison schools
School visits:	67 interviews involving 86 individual school staff
	(principal, program coordinator, kitchen specialist, garden specialist)
	30 discussion groups (229 students)
	garden and kitchen tour and audit
Student survey:	23 of 28 initiative schools (491 surveys)
	11 of 14 comparison schools (260 surveys)
Parent survey:	23 of 28 initiative schools (300 surveys)
	12 of 14 comparison schools (234 surveys)
Student food diary:	23 of 28 initiative schools (413 diaries)
	11 of 14 comparison schools (224 diaries)
Volunteer survey:	17 of 25 initiative schools (60 surveys)
Teacher survey:	16 of 26 initiative schools (62 surveys)
Interviews:	DoHA and DEEWR
	SAKG Foundation central staff and project officers
	state and territory education and health departments
	demonstration school principals (29 participants)
Investment form:	15 of 24 initiative schools
Literature review	
SAKG Foundation website review	

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Evaluation Timeline

Activity	Task	May/July 2011	Aug / Sept 2011	Oct / Dec 2011	Jan / April 2012	May 2012
1	Activate project and secure ethics approval					
2	Develop evaluation framework and detailed evaluation plan					
3	Refine evaluation tools					
4	Data collection, project monitoring and support					
5	Analysis and reporting					

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Findings – Outcomes:

Food choice changes:

Improvement in **food choice** domains, as reported by students (t=2.26, p=0.024)

Girls & students in provincial schools had statistically greater improvements in food choice domains

20% more likely to eat fruit & vegetables (as reported by parents – n.s.)

Eating behaviours varied with level of parent education (t = 2.40, p = 0.017) and size of school (t = 2.48, p = 0.014).

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Findings – Outcomes:

Kitchen Lifestyle behaviours – statistically improved.

- Girls had higher scores than boys ($t = 6.19$, $p < 0.001$), and higher grades scored higher ($F = 5.71$, $p < 0.001$)

Students were:

- more engaged with cooking at home:
  - 20% more home prepared meals;
  - 77% children asked parents to cook the foods prepared at school;
  - 72% parents reported their children were more willing to cook at home.

- more likely to try new foods, especially if they had grown or cooked the foods

- more confident in the kitchen and garden and required less assistance:
  - Kitchen Skills included: using kitchen equipment & tools; reading & following recipes; and kitchen safety & hygiene

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Findings – Outcomes:

Garden Lifestyle behaviours – no statistical improvements as reported by students and parents and level of enjoyment similar.

Students in SAKGNP schools reported more confidence with a range of garden activities compared with comparison school students.

More than 80% of SAKGNP school students reported they learned new things in the garden.

Almost 1/3 of SAKGNP school parents reported that they worked more often with their child in the home garden since the beginning of the Program.

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Findings – Outcomes:

Students had improved their **social behaviours**:

- more than 86% of teachers reported improvements in students' teamwork skills and
- 50% of parents reported improvements across a range of student behaviours

Examples of social behaviours:

- interacting with people of many ages,
- leadership skill development,
- modifying previous bullying behaviour,
- managing difficult behaviour,
- ethic of care and sense of pride in the school

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Findings – Program:

On average schools received $44,758

- **Kitchen capital** - approximately two thirds (66.2% or $29,610)
- **Garden capital** - one third (33.8% or $15,147) on.

The **return on investment** economic analysis determined the total amount of resources (direct school and community activity) generated to provide the Program within the school.

- On average, a total of $181,979 was generated over the initial two year period, including the Australian Government investment($44,758 per school).
- **Economic multiplier of 5.07** for each dollar provided by the Australian government.

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Findings – Program:

Potential for longer term health impacts and associated health-related cost savings, based on:

- statistically significant improvement in kitchen lifestyle behaviour and food choice domains attributable to SAKGNP, and
- its successful integration in school and the wider community networks (reflected in high multipliers on initial government capital investment),
- combined with findings reported in the current literature.

Achieving this potential will depend upon continuation of the garden and kitchen class programs, which in turn is **dependent upon their integration into schools' curricula**.

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Findings – Program:

The Program provided opportunities **to teach the school's curriculum in different ways**, with

- science and technology and mathematics frequently being taught to the garden and
- English, mathematics, health and physical education often taught to the kitchen

Challenges to teacher participation included lack of time in a busy timetable, a full curriculum, the incoming new national curriculum and insufficient planning time.

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Findings – Program:

‘Health Promoting School’

- It was a **‘whole of school’** approach – it engaged the wider school community; their time, commitment and personal resources were critical to the establishment and implementation of the Program in the schools.
- It had a **resonance with students** through ‘hands-on’ learning opportunities, and
- It provided **links across the curriculum**, with practical locations to teach core curriculum concepts

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Findings – Program Enabling Factors:

- Provided a **'vision'** - as a guide to implementation.
- Program **champions** (often the principal) → a high profile and support
- **Engaging** the wider school community - their time, commitment and personal resources
- The garden and kitchen **specialist staff** and program coordinators
- Engagement of **volunteers** and their contributions of time, labour and specialist expertise.
- **Resonance** with the Australian Sustainable Schools Initiative (AUSSI)
- **Integration** of garden and kitchen activities across the curriculum and the school.
- Lump sum **funding** for the development of garden and kitchen infrastructures within schools.

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Findings – Program Barriers:

- **Too inflexible** and limit the capacity of some schools to participate
- **Limited adaptability** for local school environments
- **Limited linkage** with other school-based health initiatives
- **Limited integration** of the Program with the curriculum:

Suggestions:

- identifying links with existing education and health strategic foci for schools;
- the provision of curriculum and teaching materials that supported linkages with the national (or state) curricula;
- employing specialist staff with teaching qualifications; and
- effective communication between Program staff and teachers.

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Findings – Program Barriers:

- Lack of recognition of the specialist expertise required for the garden and kitchen classes and activities including the salary rates, times required for all required tasks and recognition of specialist expertise
- Reliance on volunteers / Turnover and retention of volunteers
- Lack of recognition and development of the special skills required to recruit and manage a cohort of volunteers would also assist program coordinators to undertake this role
- Support and guidance for commencing schools in relation to project (building) management skills, contract negotiations and navigating the regulatory processes within each state

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Barrier – differing health and education expectations:

"Schools see learning as cumulative over the time a student is in school (up to 12 years and usually at least 6). Literacy, numeracy, and other core school programs build knowledge and competencies over many years, taking into account a student's cognitive and physical development. They don't expect major behavioral outcomes in less than one year, or even after two or three. The evidence shows that it is unrealistic to expect health "interventions" which are supported with limited and short-term funding, to make much difference in behavior change"

(St Leger et al, 2007, p.110).

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Program conclusion:

Garden & kitchen programs can contribute to healthier eating and lifestyle behaviours

Such achievements do not come easily

Requires significant contributions across multiple levels – schools, government & communities

"You can integrate many aspects of the SAKGNP into Key Learning Areas. It is also great for students to learn 'life skills' such as healthy choices and is an excellent hands on way of learning"

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Combining Realism with Rigour:

- Study design a compromise –
  - evaluation commissioned after 3 years
  - no baseline >> mainly cross-sectional, case-control model
  - not always possible to control for all demographic criteria (eg ses of parents)
- Data collection methods – variable quality data; very limited timeframe
- Evaluation model – allowed collection of outcome data + program and economic data

EVALUATION HIERARCHY	What did you do?	How did it go?	Can you keep going?	What has been learnt?	Are your lessons useful for someone else?	Who did you tell?
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Thank you!

Questions?

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Stephanie Alexander KITCHEN GARDEN® National Program

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