

**Educating Healthy Citizens in New Zealand Schools:
Students Leading the Way**

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Abstract

In New Zealand and the USA much attention has been focused on the “obesity epidemic” and ways of educating children so they are able to make healthy choices. This paper describes one New Zealand approach targeted at elementary schools serving low socio-economic communities. These schools were supported to use a health promotion approach underpinned by a community development process and a systems view of schools. This way of working contrasts with one-size-fits-all programmes, as it enables school communities and students to ensure social justice through planning and designing health promotion actions that fit their school context. Findings from the evaluation of this national initiative are presented which show how supporting students to lead change can contribute to positive outcomes.

Introduction

Much worldwide attention has been paid to the “obesity epidemic” and the potential impacts of this epidemic on young people and adults. In New Zealand, concern has been expressed about the “obesogenic food environment” in and around schools (Carter & Swinburn, 2004; Wilson, Thomson, & Jenkin, 2007) and research that shows poor student nutrition is associated with poor attendance, behaviour, and academic outcomes (Quigley and Watts Ltd, 2005). This situation has led to debate about whether schools can be, or should be, used as vehicles for *educating and/or regulating* students to make healthy choices.

Internationally, individual schools and national or regional agencies have put in place a range of initiatives that aim to use educational settings to promote healthy behaviours. One example that received a substantial amount of international media attention was the “Too fat to graduate rule”¹ at Lincoln University, Pennsylvania. This stipulated that students whose Body Mass Index was 30 or above must complete a fitness course before they could graduate. This “top-down” or adult-designed health initiative aimed to *regulate* student behaviours, and is one example of what Buchanan (2006) calls the “dominant metaphor” of health education in schools. This is a medicalised approach in which health education is seen as an “intervention” that aims to prevent people engaging in harmful behaviours. Buchanan suggests that this medical model contrasts with educational practice in which the dominant goal is to develop a “well-educated mind” through supporting students to develop skills in critical judgement, self-understanding, and a sense of agency, citizenship, and community responsibility. These are the attributes Buchanan sees as necessary for young people to make healthy choices in the 21st Century. Thus he considers schools’ main focus should be on *educating* students in order that they gain the knowledge and skills they need to make empowering choices and contribute individually or collectively to ensuring social justice for their communities.

This paper describes some of the findings from a study of a school-based health education and promotion initiative, Fruit in Schools, which incorporated approaches that aligned with the “*educating*” focus recommended by Buchanan (2006). Fruit in Schools was a nation-wide initiative developed in New Zealand. The paper draws on the findings from a longitudinal evaluation of this initiative (Boyd, 2009; Boyd, Dingle, Campbell, King, & Corter, 2007; Boyd, Dingle, Hodgen, King, & Moss, 2009; Boyd & Moss, 2009; Dingle et al., 2009).

It begins by describing Fruit in Schools and the Health Promoting Schools (HPS) model used by the schools that participated in this initiative. Following this, the evaluation design is described along with findings that show one way Buchanan’s (2006) *educating* focus can be realised through the development of student leadership opportunities relating to health and wellbeing.

What was Fruit in Schools?

Fruit in Schools was a New Zealand initiative designed to improve health outcomes for the students who attended schools serving low socio-economic communities. The initiative targeted schools with the two lowest socio-economic status ratings (each New Zealand school is given a decile or socio-economic status rating that is calculated by matching a sample of parent addresses to national census data). Over time, all schools in the primary sector (this sector includes students in Years 0 to 8. The USA equivalent is elementary and middle schools) with decile 1 or 2 ratings were invited to join four successive phases of the initiative. The first three phases mostly targeted decile 1 schools.

Students at schools which opted to join Fruit in Schools were offered a piece of free daily fruit, and the schools were offered extra funding and support from agencies to promote healthy lifestyles. In each school, a lead teacher was offered some classroom release time to oversee Fruit in Schools, and Fruit in Schools coordinators were employed by local health boards to work with clusters of schools. This and other support was focused around four national health priority areas: healthy eating, physical activity, smoke-free, and sun-smart (sun protection) behaviours. Schools could also add their own health priorities.

The first phase of Fruit in Schools started in late 2005, and initiative was funded by the Ministry of Health in partnership with the Ministry of Education. A number of other Government and non-Government agencies also contributed personnel or resources.

A societal perspective on health and wellbeing

When they joined Fruit in Schools, schools undertook to use a Health Promoting Schools (HPS) approach to promote health and wellbeing. HPS is an international movement with equivalents in many countries. In the USA it is commonly called a “comprehensive school health programme”.

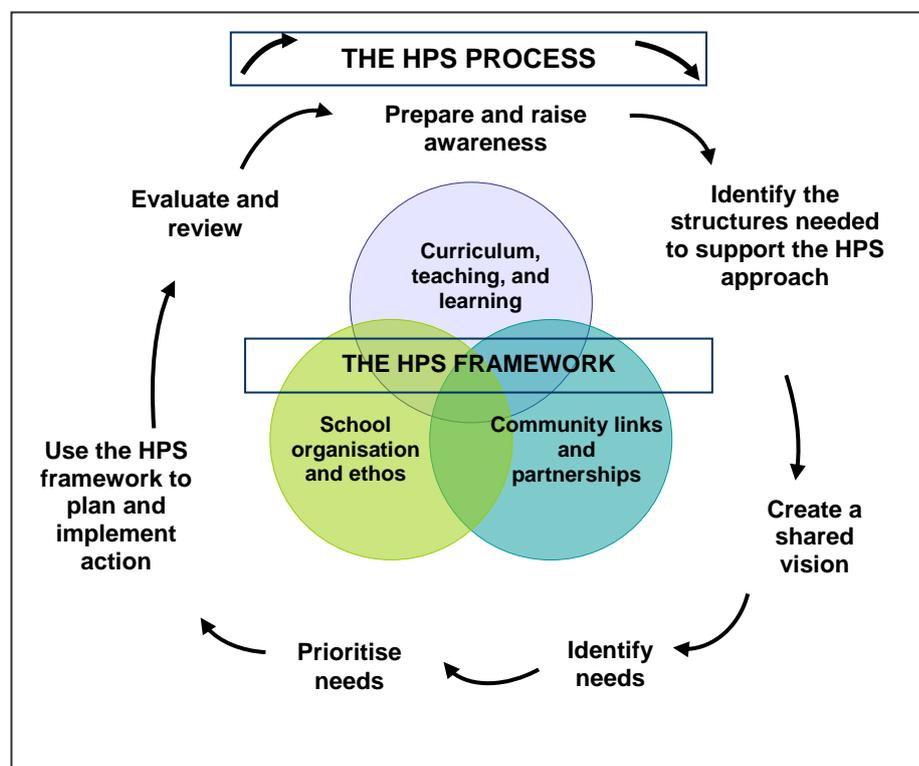
HPS is underpinned by a societal perspective on health and wellbeing (Lister-Sharp, Chapman, Stewart-Brown, & Sowden, 1999) that is based on systems thinking. Moving beyond “individual” theories (that suggest individuals have full control over their actions), the societal perspective recognises that an individual’s capacity for change is affected by the social and physical environment (or system) they live within. Approaches that are based on a societal perspective, such as Fruit in Schools/HPS, conceptualise schools as ecological systems with inter-connected layers. Every school system is different with different layers and types of interactions. Hence different strategies are needed to address these various layers and interactions (Glanz, 2002).

Systems-based initiatives such as Fruit in Schools/HPS acknowledge that what works in one school setting might not work in another. Thus Fruit in Schools/HPS is also an example of a *settings-based* model of health promotion. Rather than being a “one size fits all” programme, stakeholders develop solutions to health and wellbeing concerns in ways that are cognisant of the needs and resources of their school context (i.e., their unique school *setting*). There is an emerging evidence base about the utility of settings-based and ecological approaches in enhancing a broad range of health and wellbeing outcomes for students. These include improving nutrition, emotional wellbeing, and rates of physical activity, and decreasing bullying behaviours (e.g., see Lister-Sharp, et al., 1999; St Leger, 2006; Stewart-Brown, 2006; Swearer, Espelage, Vaillancourt, & Hymel, 2010).

Settings-based models are particularly appropriate in a New Zealand context given that schools have been self-managing for two decades. In 1989 responsibility for budgeting, employment and staffing, curriculum implementation, and educational outcomes was largely shifted away from central agencies and given to schools (Wylie, 1994). Therefore, individual schools in New Zealand have considerable flexibility in selecting the approaches or programmes they wish to use, and it is not possible to mandate the use of any one approach.

Ecological and settings-based approaches to health education and promotion often use community development processes to create change. These processes are designed to enable groups to take control over and improve their health and wellbeing. As noted in the Ottawa Charter (World Health Organization, 1986), community development is a key public health promotion strategy. HPS includes a health promotion process which rests on community development principles (see Figure 1).

Figure 1: **The HPS framework and process***



* Figure adapted from *Fruit in Schools: A 'How to' Guide* (p. 9, Ministry of Health, 2006).

As a starting point, the HPS process encourages schools to develop a health team of activists who planned for change. These health teams commonly include representatives from the school community such as the principal, teachers and other school staff, students, and parents. One key emphasis of Fruit in Schools, which grew over time, was the development of student-led health teams. These students “*learned for*” their health and wellbeing as well as “*learned about*” health through “*learning by doing*” health promotion activities. These activities addressed health concerns in ways that were cognisant of the unique needs and interests of their peers and school setting. Through the act of supporting young people to engage in acts of health promotion, student leadership processes aim to furnish young people with the knowledge, skills, and competencies they will need in the future to advocate for the health and wellbeing of themselves, their family, or community.

To support schools to plan for change, HPS also provides a framework (as also shown in Figure 1) of three aspects or layers of school practice that could be aligned: school organisation and ethos (i.e., school policies, practices, culture, and physical environment); curriculum, teaching, and learning (i.e., what happens in the classroom); and community links and partnerships (i.e., connections outside the school).

Modes of inquiry

The evaluation of Fruit in Schools was designed as a mixed-method, longitudinal study. Mixed-method studies offer greater breadth of analysis than single-method studies (Patton, 2002; Yin, 2003). The study incorporated aspects of formative, process, and outcome evaluation. Three key questions were explored:

- 1) What are the factors that support and hinder the implementation of Fruit in Schools, and impact on its longer term sustainability?
- 2) What changes are occurring within schools and to (school and agency) professional practice in regard to approaches to health and wellbeing?
- 3) What changes are occurring in students’ knowledge, attitudes, and behaviours in regard to the four health areas?

When designing the evaluation, we tried to address calls in the literature for new approaches to evaluating settings-based initiatives (Dooris, 2006; Lister-Sharp, et al., 1999; Rowling & Jeffreys, 2006; Stewart-Brown, 2006; Young, 2005). Rowling and Jeffreys (2006) suggest there is a need to develop new paradigms that draw on both health and education perspectives about practice and evidence, and acknowledge the potential variation between settings. They comment on the lack of appropriateness of traditional methods (i.e., the “gold standard” of health and education evaluation—the randomised controlled trial) in catering for this variation.

To design the study and analyse the findings we used literature about health education and promotion in schools (e.g., Buchanan, 2006; Lister-Sharp, et al., 1999; Robertson, 2005; St Leger, 2004; Stewart-Brown, 2006; Young, 2005) as well as about school leadership and change (e.g., Fullan, 2005; Hargreaves & Fink, 2004; Russell, 2003). We were also cognisant of the need to include the perspectives of the multiple stakeholders who were located within the system of an individual school, as well as within the wider health and education systems surrounding schools. Therefore, the mixed-method study we designed included case studies of school practice in context as well as surveys and interviews with a range of key stakeholders.

Methods and data sources

Data was collected over 2005-2008, using three main sources:

1) a quasi-experimental approach involving baseline (start of 2006) and yearly follow up surveys of students at a sample of Fruit in Schools schools, and comparison schools with similar characteristics. By the time of the follow up survey at the end of 2008, most of the initial comparison schools had joined later phases of Fruit in Schools. Fruit in Schools was rolled out in four main phases. The main student groups who took part in the survey were in Phase 2 and 3. We tracked a cohort of students who were in Year 4 (approximately USA Grade 3) at the time of the baseline survey in early 2006. At the time of the final follow up survey in late 2008 these students were in Year 6, and Phase 2 students had been part of Fruit in Schools for two and a half years. Owing to the high rate of mobility of students who attend schools that serve low socio-economic communities we tracked the cohort of students rather than individuals. During all data collection rounds we also sent surveys to a classroom teacher of the students who were completing the survey and Phase 1-3 lead teachers. The staff surveys were confidential and voluntary, therefore we did not track individuals over time. Table 1 shows the different phases of Fruit in Schools at the time of the evaluation, and the number of schools which took part in the evaluation.

Table 1: Fruit in Schools phases and survey sample

School populations available at the time of the baseline survey (Early 2006)	Sample for baseline survey (Focus on Year 4)	School populations available at the time of the final follow up survey (Late 2008)	Sample for follow up survey (Focus on Year 6)
Phase 1 schools (joined the initiative in October 2005) Total population=60 schools	Lead teachers only from 31 Phase 1 schools	Phase 1 continued	Lead teachers only from 35 Phase 1 schools
Phase 2 schools (joined the initiative in March 2006) Total population=54 schools	Principal, lead teacher, one Year 4 classroom teacher, and all Year 4 students from 35 Phase 2 schools	Phase 2 continued	Lead teacher, one Year 6 classroom teacher, and all Year 6 students from 33 Phase 2 schools
Comparison schools Total population= comparison schools were mostly selected from approximately 120 remaining primary schools with a decile 1 rating	Principal, one Year 4 classroom teacher, and all Year 4 students from a sample of 34 comparison schools	Phase 3 schools (joined the initiative in October 2006) Total population=156 schools	Lead teacher, one Year 6 classroom teacher, and all Year 6 students from 27 Phase 3 schools (in 2006, these were comparison schools) (An extra sample of lead teachers was also included)
		Remaining comparison schools (most of the 2006 comparison schools joined Phase 3)	Lead health teacher, one Year 6 classroom teacher, and all Year 6 students from 7 remaining comparison schools

- 2) two sets of six case studies of schools nominated by Fruit in Schools coordinators for their good practice in promoting health and wellbeing. For the second round of case studies we also selected schools for which substantial shifts were shown between the baseline and 2007 student survey data. At most case study schools we interviewed the school principal and lead teacher, conducted focus groups with teachers, student leaders (from Year 4-8), and parents, and interviewed the Fruit in Schools coordinator who worked with the school.
- 3) yearly semi-structured interviews and online surveys with a sample of Government and non-Government agency partners.

Along with a synthesis of case study findings, we used a number of different approaches to interrogate and report on findings, including:

- data triangulation (of the findings from qualitative and quantitative data, and from different stakeholders)
- comparing the patterns over time between student survey data from Fruit in Schools and comparison schools
- comparing changes over time with the expected patterns documented in health and education research studies

- comparing the patterns of change for different groups (students, teachers, Fruit in Schools coordinators, and agency partners)

In combination, these multiple approaches enabled us to build a robust picture of the contribution of Fruit in Schools to student outcomes and changes in practice. This paper primarily draws on evidence from the school case studies, the lead and classroom teacher surveys, and the student surveys.

Did Fruit in Schools make a difference to student outcomes?

This section of the paper looks at some of the data from the lead teacher survey related to student outcomes, and then compares patterns in this data to those shown in student survey data and case study findings.

What did the data from teacher surveys tell us?

The data from surveys of Fruit in Schools lead teachers suggested a number of changes had occurred for students since their school joined Fruit in Schools. Table 2 compares lead teacher baseline (start 2006) and follow up (end 2008) ratings in relation to a number of student outcomes. On the follow up survey, lead teachers gave a significantly higher rating to items in the general education outcomes section as well as all items relating to two of the Fruit in Schools health priority areas: healthy eating and physical activity. Other survey questions suggested that these two areas had been the primary focus at most schools.

Table 2: Fruit in School lead teacher ratings of student outcomes

Please rate students' average behaviours, knowledge, and attitudes in the following areas	2006 Baseline (N=122) % selecting good or excellent	2008 follow up (N=104) % selecting good or excellent (Shift from baseline)
General outcomes: Students'		
Involvement in school decision-making about health and wellbeing	25	53 (+28)*
Behaviour/attention span in class	29	68 (+39)*
Ability to take ownership over personal health goals	31	62 (+31)*
Achievement/learning outcomes	37	65 (+28)*
Healthy eating outcomes: Students'		
Knowledge of the health benefits of good nutrition	36	75 (+39)*
Attitudes towards healthy eating practices	26	70 (+44)*
Engagement in healthy eating behaviours	21	68 (+47)*
Physical activity outcomes: Students'		
Knowledge of the health benefits of physical activity	54	85 (+31)*
Attitudes towards participating in physical activity	64	86 (+22)*
Engagement in physical activity	61	83 (+22)*
Sun-smart outcomes: Students'		
Knowledge of the health benefits of sun protection	60	70 (+10)
Attitudes towards sun protection behaviours	48	60 (+12)
Engagement in sun protection behaviours	48	63 (+15)*
Smoke-free outcomes: Students'		
Knowledge of the health benefits of smoke-free behaviours	51	62 (+11)
Attitudes towards smoke-free behaviours	50	63 (+13)*
Engagement in smoke-free behaviours	58	65 (+7)

*There was a significant difference between baseline and follow up survey data on these items ($p < 0.05$).

What did the data from the student surveys tell us?

A comparison of the student survey data from the baseline (when students were approximately 8 years old) to the end of 2008 (when students were approximately 10 years old) showed similar findings to teachers' perceptions in terms of outcomes connected to the four health priority areas.

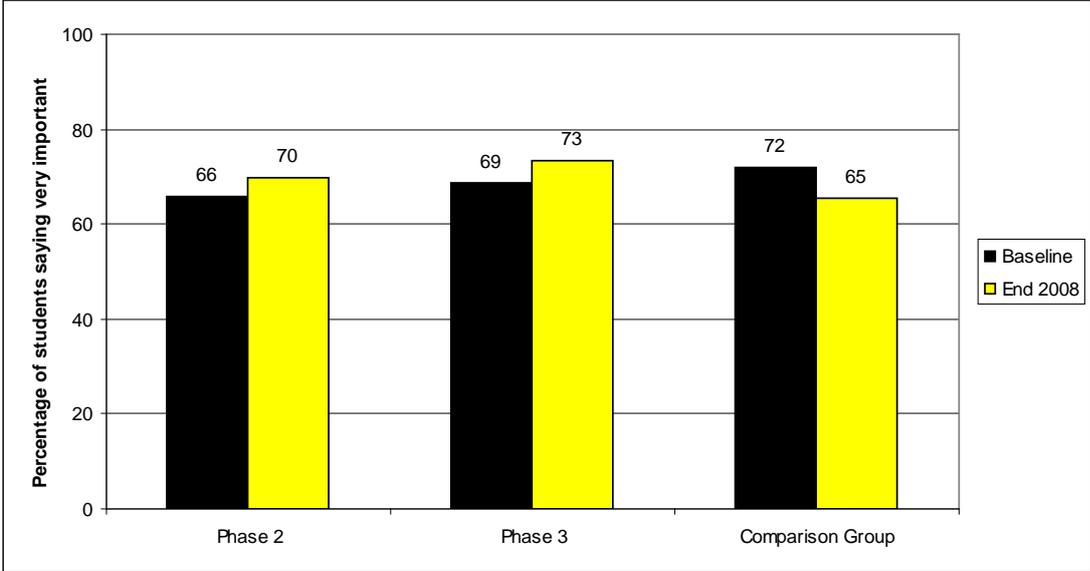
In general, as students get older, studies tend to show that their attitudes towards school get less positive (e.g., see Russell, 2003; Wylie & Hipkins, 2006) and their behaviours get less healthy (e.g., see Ministry of Health, 2008; Parnell, Scragg, Wilson, Schaff, & Fitzgerald, 2003; Wylie & Hipkins, 2006). Although the data was complex to interpret and there were some exceptions, in contrast to this expected pattern, between the baseline and end of 2008, the data from Fruit in Schools students mostly showed no shift (maintenance) or small statistically significant improvements in students' attitudes, knowledge, or behaviours. This pattern was noticeable across all the four health priority areas that were part of Fruit in Schools. The comparison students conformed more to the expected pattern. Between the baseline and end of 2008, the main key patterns of change for the three groups of students (Phases 2 Fruit in Schools, Phase 3 Fruit in Schools, and comparison) were:

- maintenance of positive attitudes towards, and awareness of, healthy behaviours (Phases 2 and 3 only)
- increases in the consumption of healthy foods such as fruit and vegetables (all groups, with more changes being statistically significant for Phases 2 and 3)
- significant increases in the mean amount of mild to moderate physical activity reported (Phases 2 and 3 only)
- maintenance over time of sun-smart practices (Phases 2 and 3 only)

Rather than looking at each individual shift, it is important to view these findings as a collective picture. For Fruit in Schools students, the collective picture was one of positive maintenance or change. In general, this pattern was supported by other data from the case studies and teacher and agency partner surveys.

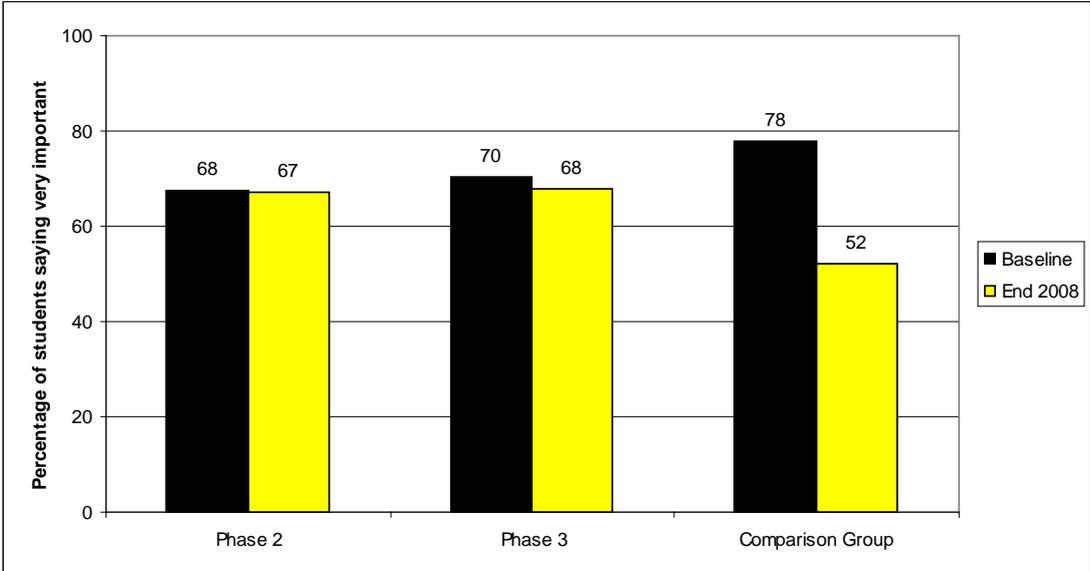
Three examples of the pattern in the student data are illustrated below. Figures 2 and 3 show how Fruit in Schools students' awareness of the importance of key health behaviours was either maintained or increased over time. Over the same time period, the awareness of students at the comparison schools decreased.

Figure 2: How important is it for me to exercise every day?*/**



* Fruit in Schools students showed a significant increase from the 2006 baseline to 2008 ($p < 0.01$).
 **N for Baseline/End 2008: Phase 2 Fruit in Schools (832/790); Phase 3 Fruit in Schools (695/600); Comparison (217/205).

Figure 3: How important is it that I wear a sunhat, sunscreen, and clothes in the sun?*/**



* Comparison student data showed a significant decrease from the 2006 baseline to 2008 ($p < 0.01$).
 **N for Baseline/End 2008: Phase 2 Fruit in Schools (832/790); Phase 3 Fruit in Schools (695/600); Comparison (217/205).

The student survey included eight opportunities for students to indicate if they had engaged in mild to moderate physical activity in the day prior to the survey (examples included: walking, cycling or skateboarding to school; doing active things in class time or at lunchtime; or doing sport after school). Table 3 shows a small shift in the mean amount of time Fruit in Schools students reported engaging in physical activity between the baseline and follow up survey. This pattern was different for comparison students: they showed little change between the baseline and end of 2008.

Table 3: **Students’ mean reports of engaging in mild to moderate physical activity**

Student group**	Year 4 students	Year 6 students	Shift from baseline
	Baseline Mean	End 2008 Mean	
Phase 2	4.51	4.82	+0.31*
Phase 3	4.54	4.64	+0.10*
Comparison	4.38	4.35	-0.03

* Items show a statistically significant positive shift from the 2006 baseline to 2008 (p<0.01).

**N for Baseline/End 2008: Phase 2 Fruit in Schools (832/790); Phase 3 Fruit in Schools (695/600); Comparison (217/205).

What factors enabled this pattern?

So what had happened at participating schools to create this pattern? Data from the schools suggested that most had planned a wide range of health education and promotion activities relating to the four health priority areas. Many developed school-wide themes relating to health and wellbeing and started promoting themselves as a “Healthy School” in a way that encouraged all staff and students to model healthy behaviours.

Our school has changed and improved its approaches to health and wellbeing over the past few years—Fruit in Schools has been an outstanding catalyst to make the changes... (Fruit in Schools lead teacher)

[Our health focus] has now become part of everyday life – it’s just what happens at our school (Classroom teacher)

School staff and agency stakeholders identified a number of enablers that acted together to create these changes. These were:

- The free fruit offered to participating schools which created a sense of goodwill and thus acted as a catalyst for change
- Support from school leaders and lead teachers who championed and led Fruit in Schools
- Use of the HPS approach for school health planning, and to consult with the parent community
- Use of student leadership approaches
- Fruit in Schools student leadership workshops and school cluster sessions
- Fruit in Schools coordinator and agency partner support, resources, and programmes

Students who lead change

Teachers, Fruit in Schools coordinators, and other agency partners identified student leadership approaches as one of the main enablers that supported schools to develop a “Healthy School” culture. These student leaders actively worked to promote health and wellbeing at their school. This paper now considers some of the findings from the teacher and student surveys and school case studies that relate to the nature, and benefits, of student leadership opportunities in schools.

Prior to joining Fruit in Schools, many schools already offered some forms of student leadership opportunities such as senior-junior buddy systems. However, our data indicated that, with support from agency partners, participating schools strengthened or initiated a wider range of these activities. One catalyst for this change was a series of leadership workshops for student health teams, facilitated by Fruit in Schools coordinators. The workshops, along with support from their teachers, enabled students to design a wide range of health promotion activities at their schools. Common student leadership opportunities at participating schools included:

- Student health teams: These students met as a group (usually with an adult facilitator) to design and plan ways to promote health and wellbeing at their school. Common activities included healthy lunch days with active games and prizes. Sun-smart and smoke-free behaviours were often also promoted. These events were linked with school-wide health themes. At some schools, students also worked with teachers and parents as a member of a school-wide health team.
- Physical Activity Leaders: These students were trained by one of the Fruit in Schools agency partners to run games and activities at break times. Some also managed their peers' access to sports equipment at break times.
- Enviro-schools or gardening teams: With support from teachers or other adult facilitators these students managed school gardens or environmental activities such as composting, that were linked with the curriculum programme and connected to the school's focus on healthy eating and physical activity. For example, a class might research and write healthy recipes and hold a healthy lunch day with the produce they had grown in the school garden.
- Fruit monitors: These students prepared and distributed the free fruit that was part of Fruit in Schools.

Data from the student survey suggested that overall, Fruit in Schools students had more leadership opportunities than their peers at the comparison schools. Table 4 shows that significantly more Phase 2 and 3 students considered that activities such as being able to “lead things to do with health”, and work together to make their school and community a healthier place, happened a lot at their school.

Table 4: Students' input into school health activities and decisions

	Year 6 students (End 2008)		
	Phase 2 (N=790)	Phase 3 (N=600)	Comparison (N=205)
	% selecting “a lot”	% selecting “a lot”	% selecting “a lot”
How often do these things happen at school?			
I learn about making healthy choices	64	68	47*
We work together to make our school healthier	61	58	37*
We work together to make our community healthier	48	52	29*
We set goals for ourselves about our health	47	54	32*
I help make decisions about things to do with health	43	46	32
I help lead things to do with health	33	35	18*

*There was a significant difference between Fruit in Schools and comparison students on these items ($p < 0.01$).

Visits to the case study schools enabled us to see these student leadership activities in action. We conducted two sets of case studies. The first took place in late 2006, when Fruit in Schools had been running for about one year, and the second at the end of 2008. At the 2006 case study schools we observed or heard about some student leadership activities, but we noted that activities relating to Fruit in Schools were mostly teacher-led. In contrast, all of the 2008 case study schools offered a wide range of student leadership opportunities relating to health and wellbeing. Like the survey data, this suggested there had been a noticeable shift in practice over these two years.

At the case study schools we talked to students who were involved in different types of leadership activities. The case study findings suggested that offering students opportunities to take an active role in health promotion has a number of benefits (for a fuller discussion see Boyd, 2009).

One main benefit was the way student leaders encouraged their peers to engage in healthy lifestyles. At a number of schools, the students talked about how they were getting sick of being bombarded with “don’t do it” messages such as TV ad campaigns about health and school sun-smart rules. These students preferred their health messages to come from their peers or be delivered in a fun and interactive way. For example, students considered that student health teams and other peer leaders were more successful than teachers in organising health promotion activities that had meaning for students, which encouraged wider participation by all students, and made good use of school or local resources. Many talked about the benefits of having student Physical Activity Leaders manage games at break times.

Because they [Physical Activity Leaders] are kids, they know what to do ... they organise things we *really* like, like obstacle courses... We have a lot more games going on... and more kids getting out there and playing. (Student leaders)

Students highly valued their leadership roles and these appeared to enhance their enjoyment of school and give them a greater sense of connection to school. Student leaders had a clear sense of school priorities, actions, and guidelines relating to health and wellbeing and demonstrated a sense of ownership over their school’s health focus with many describing their school as “healthy” or “very active”.

We are a healthy school – that’s why we don’t have the tuck shop open! (Student leaders)

Most student leaders also had a good understanding of healthy choices, and could describe how, as a result of some of the changes they had been involved in at school (as well as related messages they received from parents and TV), they had changed aspects of their behaviour to better model healthy behaviours.

I used to eat junk food all the time but I decided to eat healthy and eat fruit every day and I’ve lost heaps of weight! (Student leader)

These students were clear that they were role models for younger students, and as such they had to “walk the talk”. A number were transferring knowledge gained at school to home. Parents also reported that students were gaining the knowledge and skills they needed to make healthy choices for themselves.

We call our kids the food police! They are making their own choices outside of school—even down to the [type of] milk [they select]... I think the messages have got through. (Parent)

The case study data also suggested that supporting students to engage in acts of health promotion provided rich opportunities for these young people to gain the skills and competencies needed to be lifelong learners in the 21st Century. This is a focus of the revised *New Zealand Curriculum* (Ministry of Education, 2007) which identifies five Key Competencies that learners need to “live, learn, and work as active members of their communities”. (p.12, Ministry of Education, 2007). These are: managing self; relating to others; participating and contributing; thinking; and using language, symbols and text. In the health component of the New Zealand curriculum, there is an expectation that students will develop these competencies, and resilience, as they “contribute to healthy communities and environments by taking responsible and critical action” (p. 22, Ministry of Education, 2007). This view of learning clearly positions students as active citizens.

Table 4 (above) shows that, compared with comparison students, almost twice as many Fruit in Schools students reported that activities such as “we work together to make our school healthier” happened a lot at their school. Thus these students appeared to be contributing to healthy communities and environments by taking action as suggested in the curriculum. This was confirmed by the case study visits. As noted above, students described the various ways different student groups were working to create a healthier environment at their schools. They also described the skills and competencies they had gained from their work as a member of a student-led team. These skills and competencies included understanding of others’ perspectives, critical thinking, consultation, planning, teamwork, communication, and leadership. Students considered having these skills would assist them at high school and in their future lives. It was clear to us that being a student leader supported students to build the competencies needed for the 21st Century.

We are learning how to be responsible... we learn how to communicate with everybody else, even staff members! (Student leader)

[Before being a health team leader] I used to never be able to work with other people, now I take on board [others’] ideas, as they are really good... (Student leader)

Overall, interviews with students at the case study schools suggested that the students who were involved in leadership roles were also likely to engage in healthier behaviours, retain health messages, and feel more positive and connected to school. Our interviews with teachers and parents confirmed this view.

To see if this pattern was similar across all schools, we took a closer look at the student survey data from Phase 2 students (who had been part of the initiative for approximately two and a half years). One interesting finding from the 2008 student surveys was that, overall, significantly more Fruit in Schools students than comparison students said they liked being at school a lot. For Phase 2 students we found that two of the strongest associations with a liking for school were whether students considered they were able to lead, or make decisions about, things to do with health. This association suggests that student leadership opportunities were contributing to students’ sense of connection to school. For the Phase 2 Fruit in Schools students, liking school was also associated with:

- a higher awareness of the importance of healthy behaviours
- more positive attitudes towards health behaviours such as eating fruit and vegetables
- reports of eating more fruit and vegetables and drinking fewer fizzy drinks
- reports of engaging in more physical activity and less TV watching or computer gaming
- reports of engaging in more sun-smart practices at school and home
- lower levels of reported experimentation with smoking

This analysis of the student survey data confirmed the case study findings (for further details see the technical report, Dingle, et al., 2009). Overall, the different types of data we collected suggested that the actions the participating schools were taking, and in particular the student leadership opportunities offered to students, were creating a “protective climate” around students which acted to increase their wellbeing and supported them to develop 21st Century learning skills, engage in healthy behaviours, and feel more connected to school.

What about classroom practice and the formal curriculum?

Although the evaluation findings suggested that Fruit in Schools acted as a catalyst for schools to approach health education in ways that aligned with Buchanan's (2006) recommendation about focusing on *educating* rather than *regulating*, the data also suggested that more change was occurring at the school-wide than classroom level.

To explore the impact of Fruit in Schools on classroom practice, we included questions in the classroom teacher survey that asked teachers to indicate the different ways they supported students to learn about health and wellbeing. Compared to the Year 4 teachers who completed the baseline survey in 2006, in 2008 significantly more Year 6 teachers reported their students were involved in school-wide decision making about health and wellbeing. More also stated they were using the HPS approach. There was also a trend for Year 6 teachers to report more involvement of students in classroom decisions about health-related topics, content, or assessment but this was not statistically significant. This data could suggest that classroom teachers were moving away from a "learning about" model of health education towards the consultative approaches advocated by HPS, but change in the classroom was happening at a slower pace than that occurring at a school-wide level.

The case study data shed some light on this. At many schools, lead teachers or other staff managed the student leadership teams as a co-curricular activity that operated outside of the usual classroom programme. Some schools had successfully integrated student leadership approaches within their curriculum programme. Staff at these schools considered this to be a more successful and sustainable model. For example, one teacher ran an integrated health programme in her class with three teams of students that all worked to improve some aspect of health and wellbeing at the school. Another class managed a school worm farm which used scraps from the free fruit provided as part of Fruit in Schools. The teacher incorporated activities relating to the worm farm within the curriculum programme. At other schools, some staff commented that it was hard to find any extra time to support students to engage in co-curricular student leadership roles. Thus these approaches tended to be less sustainable over time.

Approaches such as Fruit in Schools/HPS, which are underpinned by a societal perspective on health and wellbeing, challenge the traditional "teaching about" approaches that are still common in schools. The data from the Fruit in Schools evaluation suggested that teachers needed more opportunities to learn about current approaches to health education and promotion so they could incorporate traditional "*learning about*" teaching within approaches that enable students to be active citizens who "*learn for*" their and their communities health and wellbeing as they "*learn by doing*" health promotion activities that improve their environment.

The future? Students leading the way

Students at schools which serve low socio-economic communities are more likely to experience poor longer-term health and education outcomes than their peers at other schools. The evaluation of Fruit in Schools showed that participating schools increased their focus on health and wellbeing in a way that created a "protective climate" around students. The findings presented in this paper are of scholarly significance because they add to an emerging evidence base about the utility of settings-based and ecological health promotion approaches in enhancing school culture and health and educational outcomes for students.

In the New Zealand education sector other educational, health, and environmental initiatives were occurring at the same time as Fruit in Schools. These also influenced practice at the participating schools. Nevertheless, the amount of change, and the fact that all the different groups of stakeholders attributed Fruit in Schools to be a major catalyst for these changes, suggests that the initiative was instrumental in raising the profile of health and wellbeing in participating schools.

For participating schools, a key aspect of their “Healthy School” culture was the prioritisation of approaches that enabled students to lead and design actions that were cognisant of the interests of their peers and the unique nature of their school. Being a leader supported students to develop a sense of connection to school and community responsibility, and provided them with the sorts of knowledge, skills, and competencies they are likely to need in the future.

This discussion of student leadership approaches is not intended to down-play the importance of other forms of health promotion. Current good practice is to take a systems view and use multifaceted approaches to develop a range of strategies to address different aspects of the wider system (Lister-Sharp, et al., 1999; Sallis & Owen, 2002). The use of community development processes that aim to *educate* and enable rather than *regulate*, within initiatives such as Fruit in Schools, are best viewed as one component of a wider strategy. The question we need to be asking is not, “What is the most effective sole way of creating change?”, but “What is the best package of approaches and initiatives that are likely to impact on school culture and processes in ways that set young people up for a healthy future?” The study reported on in this paper suggests that supporting young people to lead the way is one key approach which can offer young people the opportunities and skills they need to take charge of their future.

Before we did health promotion, heaps of people would sit about—now people get out and run about...people don't have to be bored any more... (Student leader)

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NOTES

1. Information retrieved from:

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