



CASE

STUDY

Thornhill Primary School (Islington)

Six workshops on food waste prevention, food waste recycling and healthy sustainable eating, as well as one campaign day focused on food waste prevention/reduction were run for Year 5 pupils (nine to ten-years old) at Thornhill Primary School in Islington. In addition, parents were invited to attend weekly cooking workshops which ran concurrently for six weeks and focused on healthy sustainable eating and food waste prevention.

The workshops were delivered in November and December 2018 by Groundwork London as part of the TRIFOVAL 'Small Change, Big Difference' Campaign.

Highlights:

- Pupils' knowledge of all three campaign messages increased after the workshops..
- After the workshops and campaign day, all pupils rated how much they cared about food waste as 4 or 5 out of 5. This is a large increase compared to the pre-intervention survey results, showing an engaged attitude towards food waste.
- The workshops resulted in long term changes; most notably, changes in food waste behaviour were made in the school canteen. Pupils are now able to choose their lunchtime portion sizes.

Background

Thornhill Primary School has approximately 450 pupils with an above average proportion of pupils from minority ethnic groups and who speak English as a second language.

At Thornhill, a 'whole-school approach' was taken which included the addition of separate workshops for parents and training for school catering staff. This was the first school where a 'whole-school approach' was trialled.

To facilitate connections between the pupil programme and the kitchen staff, the school was therefore recruited via the school's contract caterer (Caterlink).

Thornhill already had a keen interest in food waste and healthy and sustainable eating, running weekly healthy eating cookery clubs as part of its afternoon enrichment programme.

Objectives

The three key messages of the campaign were:

1. **Preventing avoidable food waste**
2. **Recycling food waste**
3. **Eating healthy and sustainable foods**

The specific objectives of the workshops were for pupils and parents to: increase their knowledge of the key messages; adopt positive attitudes and behaviours around the key messages; and, spread their learnings to other pupils, parents and staff.

Activities

Thornhill Primary School was one of only two schools who used an in depth whole-school approach to promote and cascade the campaign messages, including: pupil workshops, parent workshops and engagement with kitchen staff.

Pupil workshops were run for 26 pupils in a single Year 5 class (Comets Class). All resources were then given to the class teacher so that the sessions could be repeated with the rest of the year group to ensure equity of learning. The same workshops were delivered to the other Year 5 class by school staff in January 2019.

Using a co-production model, these workshops were written by Groundwork London staff with teaching experience and reviewed by primary school teachers. The workshops focused on pupil engagement involving interactive learning activities¹ around food waste and healthy and sustainable eating.



Figure 1 - Pupils creating smoothies - using a smoothie bike - at the campaign day

The workshops also aimed to empower pupils to design, promote and run their own campaign to endorse the key messages. The pupils and staff chose to run a campaign around food waste reduction (food market event) which focused on leftover recipes and smoothie-making [Figure 1].

At the final workshop, results were reviewed, pupils' knowledge, attitudes and habits were assessed, and learnings were shared through the development of a school action plan which would allow work to continue after the workshops. The action plan was displayed within the school.

To reinforce the campaign messages highlighted in pupil workshops, an in-depth whole school approach was adopted, this included designing additional activities for both parents and kitchen staff. These activities contributed to the same objectives and aligned with TRiFOCAL's wider objective to engage with citizens across London. Concurrent to the pupil workshops, 11 parents attended weekly cooking workshops over six weeks (attendance rates varied), learning tips on food waste prevention and reduction. In addition, the catering company and kitchen staff delivered workshops with pupils, held a stall at the campaign day and amended their menu.

Results

The project was evaluated using multiple tools: a weekly lunchtime food waste audit [Figure 2], a questionnaire completed by teachers, parent workshop surveys and key performance indicators (including homework pledges and counts of pupil, parent and teacher engagement). In addition, pupils were also evaluated using a pre- and post-intervention survey in the form of a quiz². Out of the 26 pupils who attended the workshops, 19 completed both the pre- and post-intervention survey, the results of which can be seen below.



Figure 2 - Lunchtime food waste audit

¹ See accompanying [Fact Sheet](#) for comprehensive list of workshop activities.

² The full quiz can be viewed at <http://resources.trifocal.eu.com/resources/education-packs/>

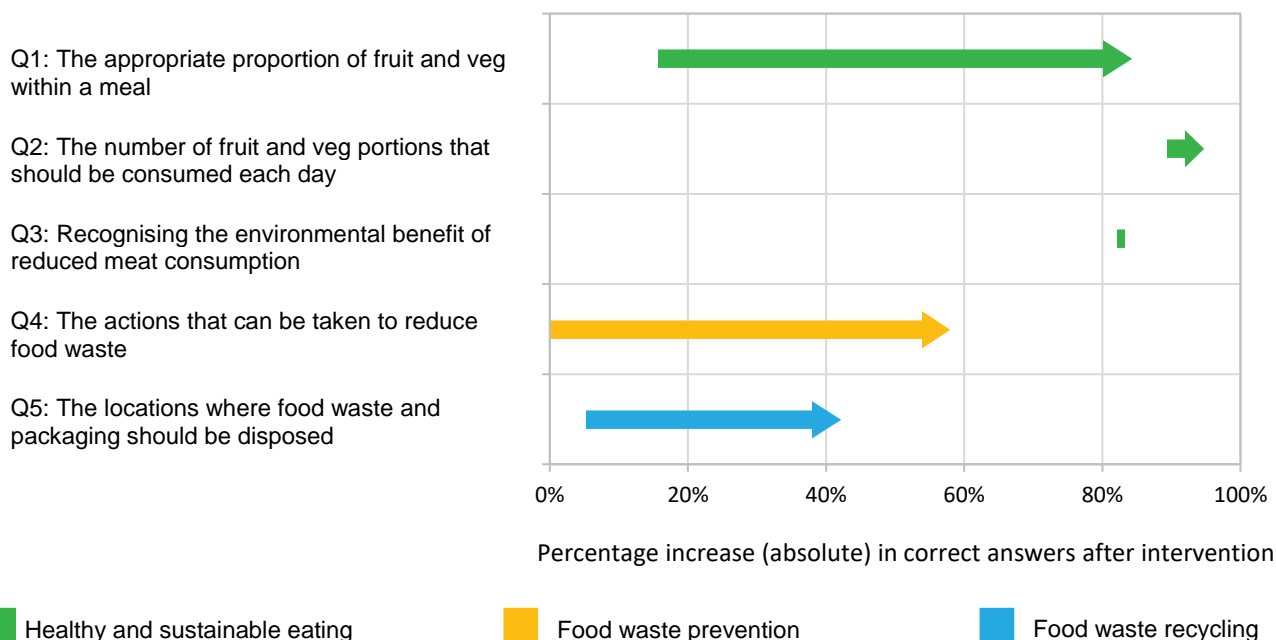


Figure 3 - Percentage increase in correct answers (post-intervention) from pupils completing the 'Small Change, Big Difference' quiz.

Knowledge

Participating pupils at Thornhill school demonstrated increased knowledge in all topic areas. The largest improvements in knowledge were seen in the percentage of pupils who correctly identified the appropriate proportion of food and vegetables on a food plate, increasing from 16% in the pre-intervention survey to 84% in the post-intervention survey [Figure 3]. Improvements were also seen in the number of students who correctly identified all three food waste prevention methods. Initially no pupil was able to identify all methods, however, in the post-intervention survey 11/19 pupils correctly identified all three [Figure 3]. In addition, improvements were also seen in food waste recycling knowledge. In the pre-intervention survey only 1/19 (5%) identified 5/5 of the correct disposal methods of food waste and packaging items. This increased to 8/19 (42%) in the post-intervention survey, although this was slightly lower than the average for all TRiFOCAL schools (49%).

Attitude

The pupils appeared to be very interested in the topic of food waste prevention and attitudes around food waste improved. The pupils' interest in food waste prevention was reflected in the focus of their campaign which featured leftover recipes and smoothie making. Furthermore, when asked how much they cared about food waste prior to the workshops only 5/19 pupils scored 4/5 or 5/5, whereas after the workshops all pupils scored 4/5 or 5/5 when asked this question.

Positive attitudes around food waste were adopted in other parts of the school. For example, one teaching assistant who attended the workshops created a food waste display which was placed in the dining hall. This visual reminder showed a bar chart displaying the food waste generated by each year group and was updated weekly.

Behaviour

There was some evidence of food waste reduction in the school. Pupils in Year 5 showed a relatively consistent reduction in the percentage of edible food wasted over the course of the workshops, decreasing from 19% to 7% between weeks 1 and 5 respectively [Figure 3]. This consistent trend was not observed in Years 4 and 6, who did not receive workshops. However, each year did produce a significantly lower percentage of edible food waste in the final week when compared to week 1 [Figure 3].

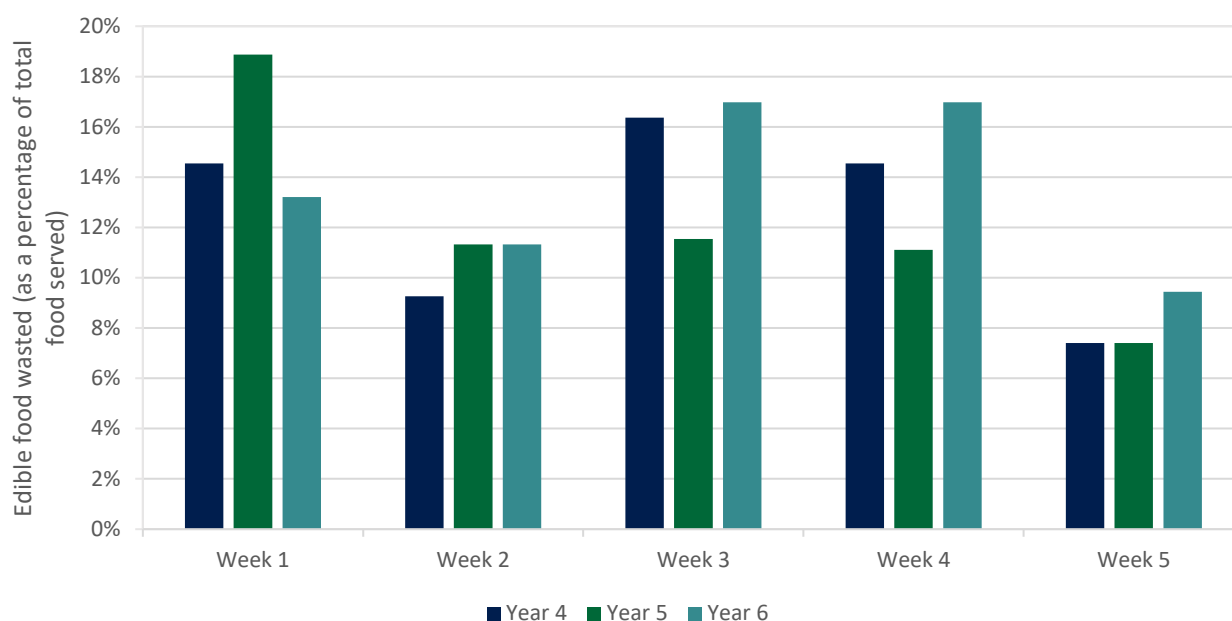


Figure 3 - Results from the lunchtime food waste audits conducted alongside project workshops. The food waste audit was conducted every Friday when fish and chips was served.

Discussion between pupils and staff resulted in the school making permanent changes within the canteen, empowering the pupils to choose their own portion sizes. The food waste audit highlighted that every Friday – when fish and chips was served – the most common food item wasted were chips, as pupils commented they were often served too many. This highlighted that portion sizes were outside the control of pupils and food waste reduction within the school would therefore be difficult to influence through workshops alone. Recognising this, Thornhill now allows pupils to serve their own portions of chips with the option to return for second helpings.

Pupils identified specific actions they could take to prevent food waste. In the post-intervention survey, when asked what they would do differently, most pupils (13/19) identified food waste prevention actions that were taught in the workshops, for example 'I will use FIFO' (first in, first out method of using up food before it goes off). Pupils also came up with new ideas such as continuing the food waste audit and encouraging other classes by adding in termly prizes for the class with the least food waste.

Cascade effect

There was strong evidence of wider conversations between pupils and parents. In addition, increasingly positive attitudes of Year 5 parents corresponded to changes in certain food waste behaviours, although others remain unchanged. Nearly all Year 5 pupils (95%) reported discussing the workshops with their parents, higher than the average for all TRiFOCAL schools (83%). In addition, eleven parents attended the cookery workshops, four of whom had children in Year 5 and also completed both a pre- and post-intervention survey. All four parents reported being 'motivated' to reduce food waste in both surveys. The frequency with which the parents reported eating or reusing left-over food generally also increased, however, there was little change in food freezing/storing habits or frequency of forgetting about and throwing away food leftovers.

The school showed long-term commitment to the campaign, continuing to facilitate cascade of the key messages. After the project, the Year 5 class performed a play about Paddington Bear where they included a recipe for marmalade using leftover oranges. In addition, six months later, the school took part in a food waste symposium event organised by DEFRA, hosted by the Victoria and Albert Museum. Two pupils were selected for a panel to answer questions about food waste prior to the launch of the exhibition 'FOOD: Bigger than the Plate'.

Catering training on food waste was very well received by the schools' catering company. The company now plans to make permanent changes to their training modules based on ideas from the kitchen staff on

how to reduce food waste and integrating messaging from the Small Change Big Difference staff engagement pack³. These training modules are to be rolled out across the business.

Challenges and considerations

Large improvements in knowledge around healthy and sustainable eating did not correspond with improvements to pupils' overall attitude or lead to intended behaviour changes. After the workshops, 13/19 pupils rated the smoothie making activity as one of their favourite aspects of the workshops, but only 1/19 mentioned things related to healthy and sustainable eating when asked what they would do differently going forward. However, it is possible that pupils are less involved in the buying and preparing of food at school and home so feel they have little influence within this area. Smoothie making is perhaps more accessible to them, as they are easy to make, and pupils can check whether the fruit is going out of date themselves.

The cascade effect of the campaign messages to other pupils in the school did not work as effectively as planned. The school ran an assembly just for Year 5 pupils, explaining why food waste was being collected in the lunch hall. This meant that pupils from other year groups weren't aware of the importance and as such did not make the same efforts to reduce their food waste. In addition, it was reported that pupils from other year groups that did understand the aims of the food waste audit were purposely putting their food waste in the wrong year group bin so that their own year group would have better results.

Attendance at the parent workshops was inconsistent. Parent numbers fluctuated between 3 and 11. This was likely due to the short timeframe for recruitment due to the school holidays. In future, a longer recruitment time should be incorporated, giving plenty of information in advance. Interestingly the four parents of pupils in Year 5 were the most regular attendees, which suggests discussions between pupils and parents may improve overall engagement.

Conclusions and recommendations

The workshops at Thornhill were successful in meeting their objective of improving pupils' knowledge around the key messages. There was also evidence that the workshops had improved pupils' attitude and behaviours around food waste prevention and recycling. However, there was little evidence to suggest pupils intended to change their behaviours related to healthy and sustainable eating, potentially due to their reduced involvement in the buying and preparing of food at home and school. Increased support for parents on the topic of healthy sustainable eating may help stimulate positive behaviour changes for pupils within this area.

When considering the cascade of key messages, Thornhill showed mixed results. Difficulties were observed in the lack of project understanding across wider year groups. Years 4 and 6, for example, did not grasp certain activities as firmly as the focus age group (Year 5). This also seemed to be observed in the parent workshops as Year 5 parents appeared to be more engaged than parents with children in other years. However, the school showed significant commitment to the campaign by incorporating the topic of food waste prevention into a school play and by taking part in an external food waste symposium.

Thornhill, along with Dorchester School⁴, have shown that linking with the wider school community and taking an in depth whole-school approach can significantly improve project engagement from the wider community and within the school. However, one recommendation going forward would be to deliver a whole school assembly in advance of the programme to ensure wider understanding around the project and its objectives for pupils within the school. Additionally, another recommendation is to provide greater time for parent recruitment to cookery workshops in an attempt to increase engagement and improve attendance.

³ This pack is available on the TRiFOCAL Resource Bank: <http://resources.trifocal.eu.com/resources/engaging-your-employees-in-small-change-big-difference-a-guide-for-large-companies/>

⁴ See separate case study on Dorchester Primary School for more information: <http://resources.trifocal.eu.com/resources/evaluation-case-studies-schools/>