



**MASSEY UNIVERSITY**  
**TE KUNENGA KI PŪREHUROA**  
**UNIVERSITY OF NEW ZEALAND**

## *Food Curriculum Research 2020*

### **Background**

The teaching of food knowledge and cooking skills enables children to be armed with the fundamental life skill of being able to prepare a healthy meal within their own budget, culture and time constraints. The New Zealand school curriculum states 'it is expected that all children will have had the opportunity to learn practical cooking skills by the end of Year 8'.

Research conducted by Massey University dietetic students in 2016, explored food programmes being taught in Year 8. The research found discrepancies in what was being taught (for example, sourcing of recipes, content for lessons), the foods being made, the length of the course, and the skills taught.

Over the past two years, Vegetables.co.nz and the Heart Foundation have produced resources and launched a Year 8 Unit plan, based on the Technology process, to assist teachers to deliver the curriculum. This included unit plans, lesson plans, activities and accompanying resources developed using a 'by teachers, for teachers' approach. Other suites of resources developed since 2017 are also used by teachers, including 'Easy meals with vegetables' recipe cards and videos, Skill cards and videos, 'How to prepare vegetable' videos and 'Meet the Grower' video series. A Year 7 Unit plan based on the technology process, and a Health and PE lesson plan for Years 7 and 8 have also been developed.

These were promoted to schools/teachers by newsletters, social media, professional development seminars, conferences, and to education associations such as the New Zealand Association of Intermediate and Middle Schooling (NZAIMS) and Home Economics and Technology Teachers Association New Zealand (HETTANZ).

Research on the Year 8 resources was conducted by Massey University students in August and September 2020 and presents a follow up on the original 2016 survey.

### **Methods**

A 2020 survey was developed using the 2016 research survey as a guide for the Year 8 resources and aimed to determine:

- the teaching of how to plan and prepare a meal
- the cooking skills the students are taught, like baking, stir and panfrying and steaming
- the types of food items the students make in classes.

Further questions were also added to investigate the use and appropriateness of the Year 8 resources, and to find gaps and opportunities to further support teachers. Online surveys were sent to 400 teachers across the country with responses collected over a five-week period. A total of 175 Food Technology/Nutrition teachers 165 schools participated in the research.



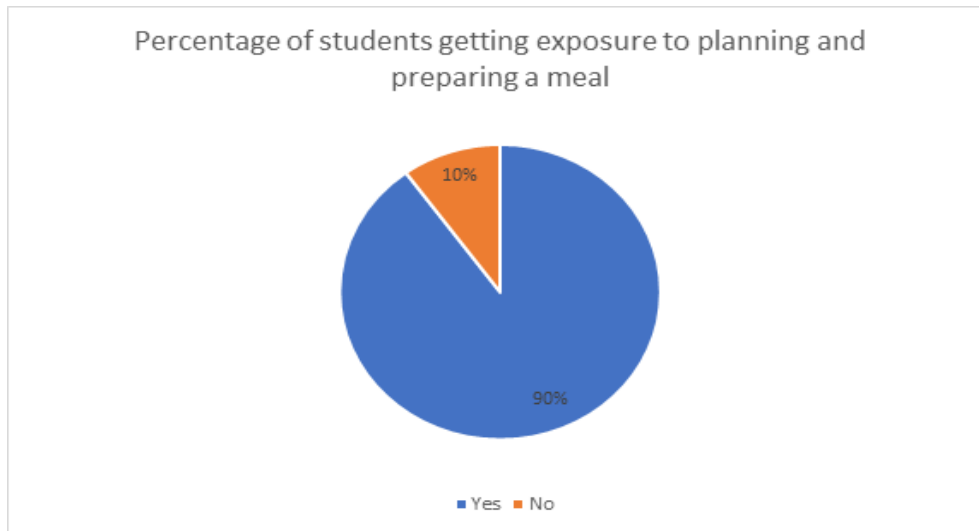
Additional dietetic and statistical expertise was used to categorise food items and cooking skills associated with recipes. For both 2016 and 2020 data sets, food items were categorised into six broad categories, then compared. Additionally, individual food items were compared between 2016 and 2020.

**Results – Key findings**

The participating schools were from all regions within New Zealand and were evenly spread across deciles – high (6-10) decile ratings (46%) and low (1-5) decile ratings (52%). (2% no decile rating as they are Correspondence schools).

	Decile group			Total
	Decile 1-5	Decile 6-10	No Decile	
Number of schools, n (%)	86 (52%)	76 (46%)	3 (2%)	165*

Over 90 per cent of the teachers involved in the survey are giving students exposure to planning and preparing a meal.



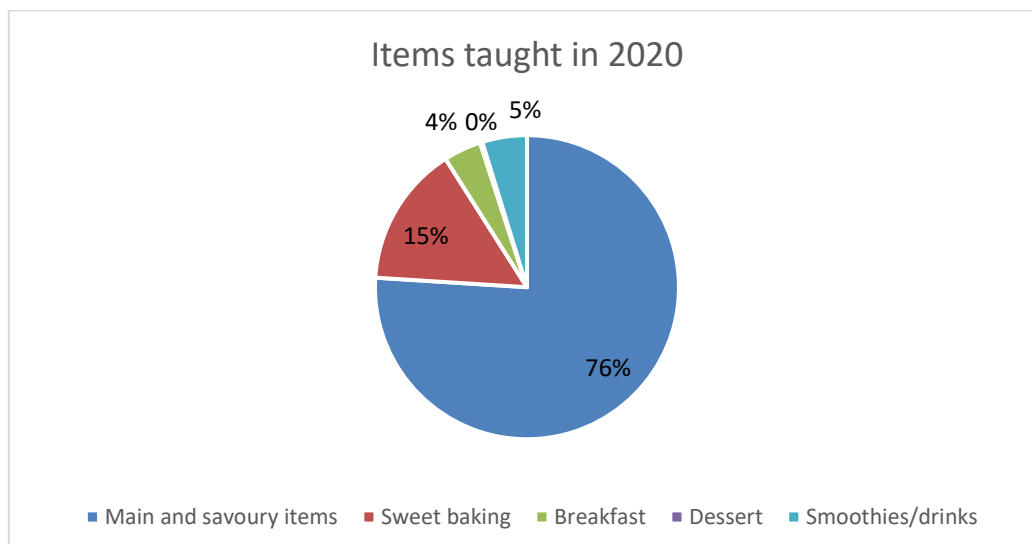
### Main meals and savoury items make up 76 per cent of food items taught in schools

The largest food category in 2020 was main meals and savoury items (76%). This category consisted of a range of foods such as pizza, macaroni cheese, stir fry vegetables, burgers, and savoury baking.

There was an increase in the percentage [7%] of main meals and savoury items being taught in 2020 compared with 2016, and a decrease in the number of desserts.

In 2020 compared with 2016, in terms of individual food items, teachers reported preparing more vegetable-inclusive dishes, including soup [increase 19%], sushi [increase 23%] and savoury egg and vegetable dishes, such as frittatas [increase 8%].

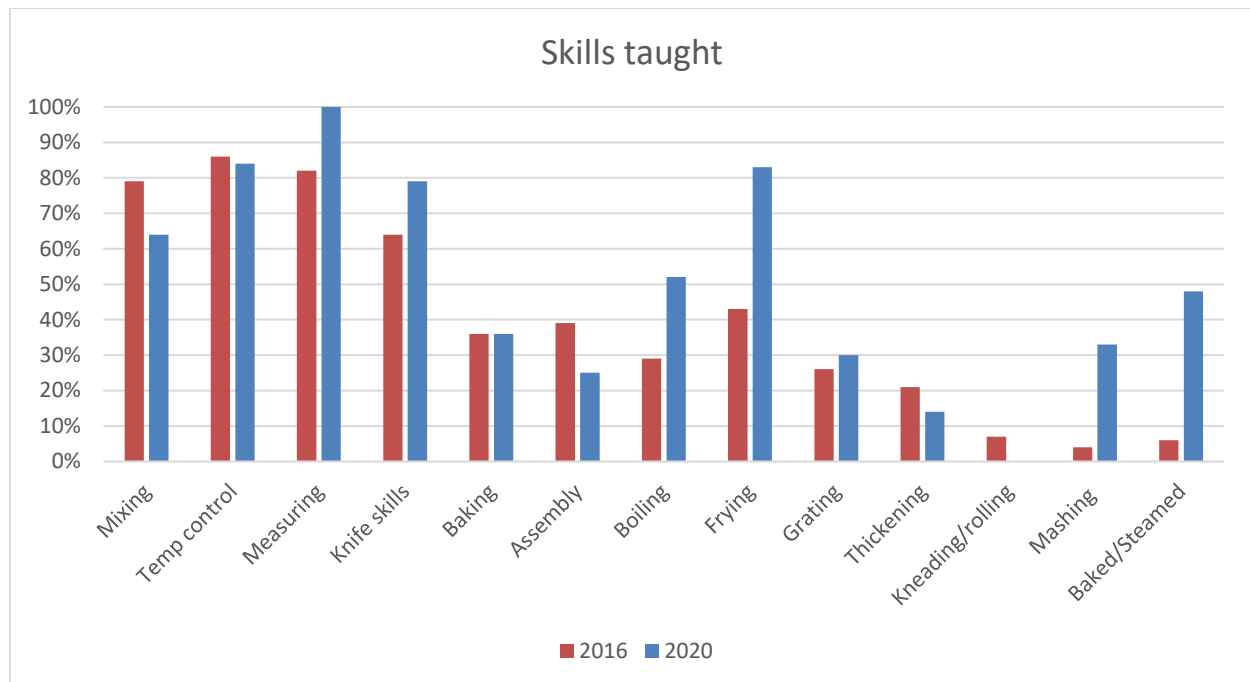
Teachers also reported preparing fewer food items such as biscuits [decrease 8%], cakes [decrease 6%] and scones [decrease 10%]



## Increase in cooking skills associated with a main meal

Teaching a wide variety of cooking skills in classrooms is vital for the development of lifelong healthy eating and cooking habits.

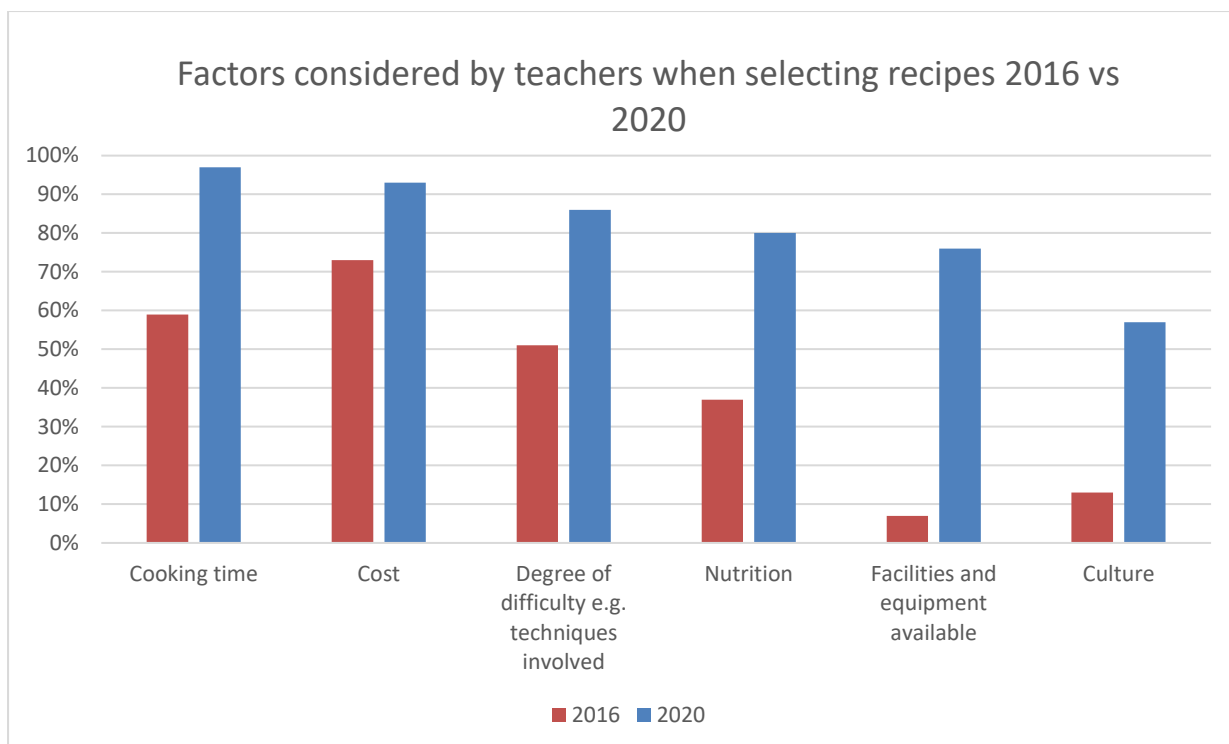
Recipes used by teachers in 2020 and 2016 were assessed for the types of cooking techniques used. In 2020 there was a notable increase in the teaching of skills associated with preparing a main meal. These included increases in the teaching of knife skills, baking/steaming, boiling and pan/stir frying compared with 2016.



While skills associated with baking continue to make up a proportion of what is taught in schools, it is important to remember some of the key food skills that this supports, such as accurately measuring, mixing, and the functional role of certain ingredients (like baking powder, baking soda).

## More teachers are considering nutrition and culture when it comes to selecting recipes.

In 2020, more teachers are considering a range of factors when it comes to the selection of recipes they teach in the classroom, versus 2016.



Cooking time and the cost of ingredients remain the top two factors considered by teachers when selecting recipes, however, nutrition and culture are two of the factors that have seen the biggest increases since 2016.

Facilities and equipment available for teachers to use are also key factors for teachers to bear in mind when choosing recipes, however, there are often limited opportunities to alter this compared with other factors.

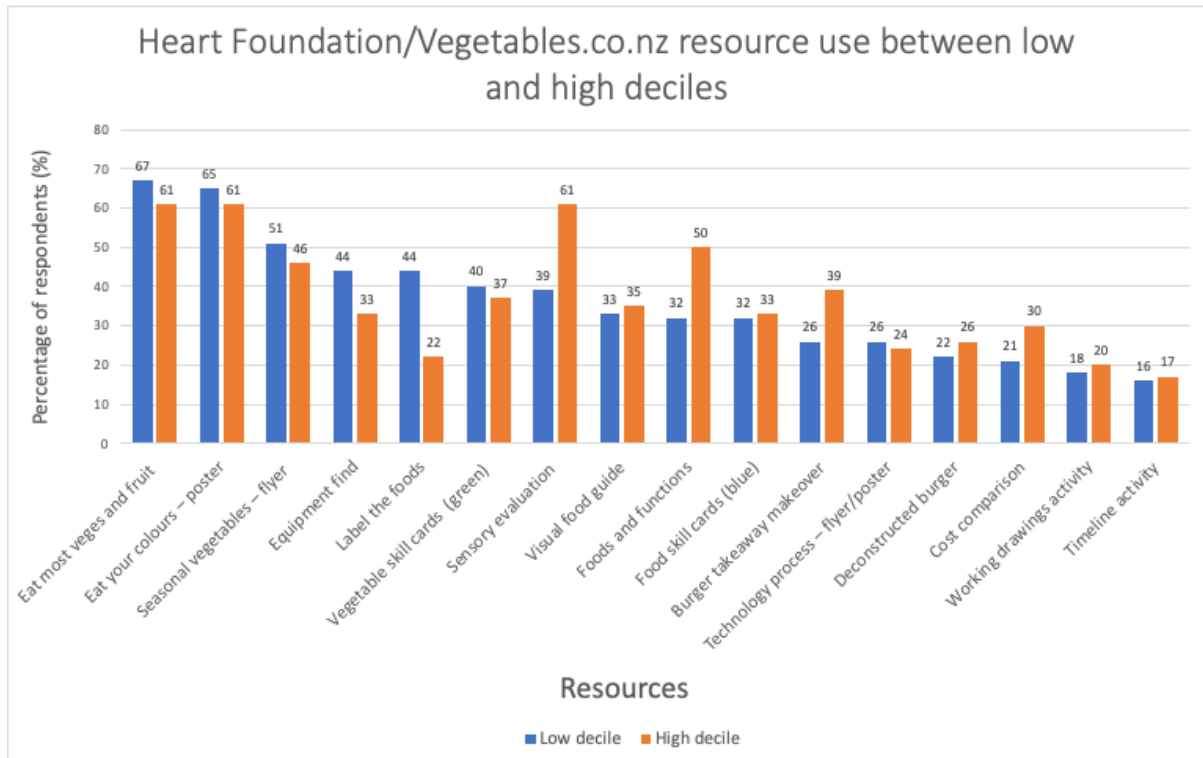
### **Heart Foundation/Vegetables.co.nz resources used by two thirds teachers in the survey**

The Year 8 Heart Foundation/Vegetables.co.nz food curriculum teaching resources are used by 65% of teachers involved in the 2020 research, with 69% of teachers from low decile schools and 62% of teachers from high decile schools using them in their classes.

The Food Technology Year 8 resources were used in Year 7 lessons by 79% of respondents, in Year 8 lessons by 86% respondents and in Year 9 by 29% of respondents.

The most popular recipe lesson used by teachers was ‘Lesson 3 – Veg up macaroni cheese’, with 64% of low decile teachers and 66% of high decile teachers using this recipe.

The most commonly used Heart Foundation/Vegetables.co.nz Year 8 resources were ‘Eat most – vegetables and fruit’ (65%), ‘Eat your colours – poster’, ‘Sensory evaluation’, and ‘Seasonal vegetables – flyer’.



Teachers feedback indicates that many are using individual resources and lessons from the unit plan rather than all of them. This was the original intention of the programme so that teachers could use a pick and mix approach based on their needs.

The research also identified 42 per cent of teachers are using Vegetables.co.nz resources, compared to 26 per cent in 2016.

### Opportunities

The following themes were identified by teachers as opportunities for further development.

- Introduce more resources which are **digitally interactive** by adapting lesson plans, and incorporate more interactive worksheets, games, quizzes. [41% responders expected a shift towards online and digital learning].
- Introduce more recipes that cater to common **dietary needs**, including gluten-free, vegan, vegetarian, and plant-based recipes, while also including allergen-labelling on all recipes. [Wanted by 24% respondents].
- Further promote the **cultural recipes** currently available and create more dishes especially from Asian, Maori and Pacific cultures. [Wanted by 7% respondents].
- Develop activities which have a cost control/**affordability focus**, use low cost ingredients and focus on extending the recipe to feed more people. [Requested by lower decile schools].

- Develop more modern/contemporary recipes [20%], more basic cookery skills [13%], cost control recipes and provide more vegetable substitutions.
- Include how recipes can be adapted for different skill levels in the classroom.

## **Conclusion**

Overall, the research findings show that there have been positive changes in the cooking environment since the resources have been released. Over 90 per cent of the teachers involved in the survey are giving students exposure to planning and preparing a meal.

The highest number of food items taught are main meals and savoury items. Since 2016, there has been an increase in teaching healthier recipes and there have been reductions in sweet baked food items and desserts. These results indicate a solid platform for encouraging and supporting further change.

Compared to 2016, in 2020 more teachers consider a range of factors when selecting classroom recipes. Nutrition and culture are being considered more strongly by teachers in choosing recipes, highlighting an important ongoing role for supporting teachers in this area.

The research demonstrates that the resources created using a 'by teachers, for teachers' approach facilitated by Vegetables.co.nz and the Heart Foundation, are enabling teachers to align lessons to develop personal skills, health knowledge and life skills education. The resources are appropriate for both low and high decile schools.

Teachers identified a number of opportunities for the programme. Some of the resource opportunities have already been developed by Vegetables.co.nz and the Heart Foundation over the past year. It is important therefore, that the programme continues to partner with teachers, HETTANZ and NZAIMS, to promote these resources to schools and highlight where key supporting tools can be found.

## **Limitations**

A significant limitation for this research project was that part way through data collection, Auckland was placed into level three lockdown due to a Covid-19 resurgence in the community. This caused difficulties in following up schools which had not yet completed the surveys. It also meant delays in receiving completed responses from those who had not been followed up. There were no phone interviews carried out in 2020 as there had been in 2016.

The level 3 lockdown also created restrictions around researchers entering schools and observing the food technology classes in action, which then created limitations with the qualitative data that was unable to be obtained. Future research should aim to collect qualitative responses from

teachers, through school visits and telephone interviews where possible, to give a more in-depth analysis.

There were restrictions on promoting the resources. Four conferences were affected by Covid-19 in the first six months of 2020. This resulted in presentations to delegates and trade stands to promote the resources being cancelled. Three Professional Development Seminars, due to be held in May and June, were postponed, then later cancelled. They then became Digital webinars held in October and November.