

# Using the FormBox to increase student engagement in the classroom

## Whangarei High School Case Study



### Introduction

Rebecca Maunder teaches at a girls' school in New Zealand. She has a few different maker tools in the classroom — a 3D printer, laser cutter and paper printer — that she uses to teach the students about product development. She likes to create projects that are relevant to the girls' lives and that they find exciting.

Rebecca keeps a FormBox in the classroom to use with different classes and projects. She uses it with a 3D printer and laser cutter for projects in the "Production and Mass Production" module on the syllabus. Rebecca also writes design briefs for the students to complete using the machines they have at their disposal. She uses the Tinker CAD software program or Adobe Illustrator to make something with the laser cutter and then transfer it to the FormBox to be made.

### Challenges

#### Expense

It's expensive to get an industrial sized vacuum former into the classroom in order to really show the students how the process worked.

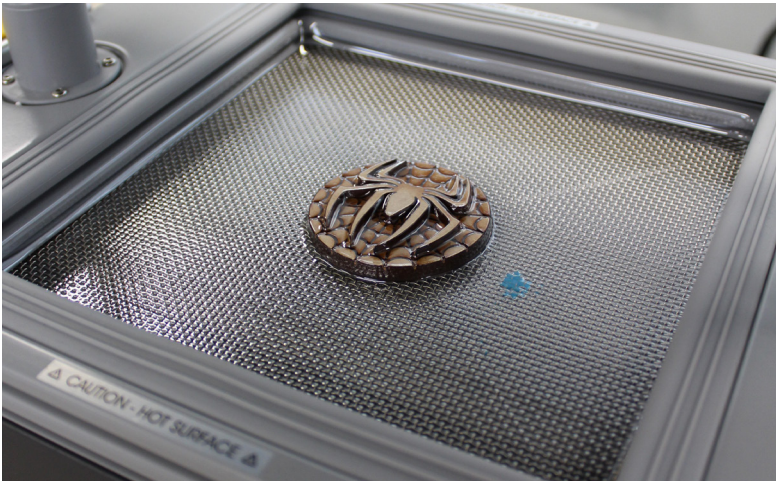
#### Size

The vacuum formers on the market are mostly very large, making it difficult to find a place for one in the classroom.

#### Time

3D printing and laser cutting take a very long time which means a long wait for something physical and concrete that the girls can take away from the class.





## Solutions

### Expense

It's a quarter of the cost of a standard light industrial machine.

### Size

It's also a quarter of the size meaning it can easily fit in the classroom.

### Time

Making things with the FormBox is quick, enabling the girls each to get a turn with the machine and use it to make something that they can take home the same day.



## Results

1. Reasonably priced machine
2. Smaller footprint that takes up less space in the classroom
3. Faster use time enabling each student to experience its functions
4. Ability to mimic the production of everyday items which stimulates interest

## Comparison with standard vacuum former

	Standard vacuum former	Mayku FormBox
Setup cost	£2.3k	£599
Footprint	540x900mm	466x267mm
Teaching resources	No	Yes

