

The science behind food packaging

1 Project Introduction

True Light Girl's College approached us to design a workshop to get students interested and excited about STEM. The project is designed around student's interest of food as well as the realistic process of food spoilage, packaging and marketing. Students are required to package and preserve a fresh swiss roll cake (w/o preservatives) and present their product as a business to a group of investors. Students shall design and present a Google site to promote their packaging, evoking creativity through technology. The workshop was conducted in Chinese to suit the comfort the students.

3 Limitations & Difficulties

- 1) **Time** - More time needed to complete packaging, bar code and the website.
- 2) **Criteria of success** - Was not stated clearly, there was confusion regarding the structure of the packaging. Furthermore, there was no specification for the mathematic aspects of STEM e.g. measurements of packaging.
- 3) **Failure to preserve swiss roll (Too difficult?)**
- 4) **Importance of this knowledge is unknown**
- 5) **Food Wastage**
- 6) **Limitation of equipment (lack of materials and feasibility)**
- 7) **Medium of English in worksheet too difficult**

5 Conclusions & Recommendation

Although the students were not able to preserve the swiss roll, we believe the workshop was successful. Students were innovative in creating packaging and were able to explain the concepts i.e. why their packaging was unsuccessful and enjoyed themselves in the process; fulfilling the main objectives of the workshop: To be enjoyable and to be STEM oriented. Amendments we would make is to add an additional session to allow students to finish their work as well as test the workshop before hand to see if the task is achievable and provide a wider range of materials.

2 Design Rationale

The 3 aspects of the workshop is broken down and taught in 3 sessions:

1) Food Spoilage

Concepts behind food spoilage were introduced i.e. how and why food spoils. Students then planned the basic designs of their packaging and submitted a material list to create their packaging next session.

2) Food Packaging

Students learnt about the bar code and designed their own, linking it to a functioning Google site. Students also made their packaging and tested its successfulness throughout the week.

3) Marketing

Students presented their product in a pitch demonstrating what their barcode presents, evaluating the successfulness of their product and why it should be in the market. A winner was chosen based on the criteria of success.

4 Individual Reflections

Kitty - Seeing the enjoyment from the students, I believe that everyone can learn something from STEM education not only those who take "science"-related subjects.

Kayla - STEM is the future towards science education. The project allowed me to share my experience learning STEM with the students which will definitely benefit to my career. Moreover, there are many lectures that helped me enhance my knowledge.

Yoyo - Being involved in an STEM integrated project allowed me to execute ideas and to learn from group mates of other disciplines. I had great times and felt rewarding when the students also enjoyed the workshops as much as we did.

Maggie - It was a great experience to hold this workshop which is different from an ordinary class. Although the resulted products may not be perfect, the students learnt a lot from it!

Payal - I feel a sense of satisfaction knowing we were able to make STEM concepts both fun and informative. I learnt a lot from my peers from other disciplines and found this to be a fruitful experience.

source

