RE-UPCYCLING PROJECT

Written Report

Group 4098

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ABSTRACT

1 INTRODUCTION

1.1 RATIONALE

Recycling and Upcycling have always been an important factor in the process of saving our planet. We looked through the internet and the packages we found which were promoting Recycling and Upcycling were neither attractive nor had the necessary resources and public relations forums.

To us, such packages were not enough to prompt the Singaporean youths to start taking part in Recycling and Upcycling. Therefore, we came up with the idea of creating an improved version of the average Recycling and Upcycling initiatives in order to promote it to Singaporean youths.

1.2 OBJECTIVES

The purpose of our project is to promote Recycling and Upcycling to the Singaporean youths so that they can cultivate the habit of Recycling and Upcycling.

1.3 TARGET AUDIENCE

Our target audience are teenagers.

Teenagers are known for being active users of the internet as well as social media. We hope that through them, we would be able to spread the idea of Recycling and Upcycling to many others across the nation.

1.4 RESOURCES

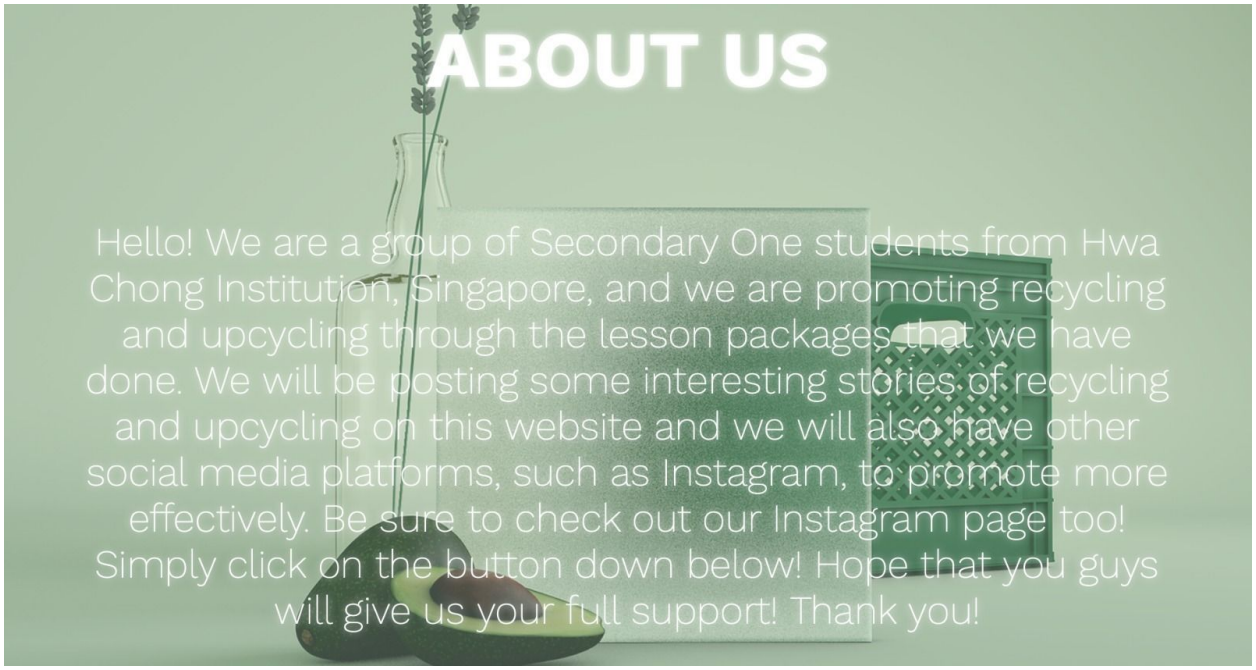
We have created two lesson packages, Recycling and Upcycling respectively. These packages include a large amount of data researched and collated from different websites across the internet as well as ideas and creative ways for people to Recycle as well as to Upcycle.

We have also managed to put together an online platform that includes our forum, resources, and links to our other social media accounts such as Instagram.


PROJECT RE-UPCYCLE
RESOURCES
ABOUT US
CREDITS


FORUM
Welcome! Have a look around and join the discussions!
Re-Upcycling Stories
Share your recycling journeys and experiences here! Click on t...
2
1
Following
Re-Upcycling Ideas
New ideas on recycling? Share them here! Click on the white b...
0
0
Following
Re-Upcycling Feedback
Do give us feedbacks for us to improve! Click on the white but...
0
0
Following


OUR RESOURCE PACKAGES
RECYCLING P1
RECYCLING P2
UPCYCLING



2 REVIEW

Our recycling package is about how people recycle and the importance of recycling. We discussed the reasons for why people don't recycle and how to stop those thoughts from hindering our drive for recycling.

The upcycling package is about how people can upcycle waste materials and the importance of upcycling. We have listed examples of the different types of upcycling and discussed how other countries have benefitted from upcycling.

The website includes some fun facts about upcycling and several upcycling stories. We have also enabled the target audience to give us feedback on our re-upcycling project and some new ideas that they have. There is a link on the website which directs the target audience to our Instagram page that also promotes re-upcycling.

2.1 WHAT IS RECYCLING

Recycling is when used waste materials and disposables are made into new materials and objects for it to be reused for other purposes. The recyclability of an item depends on its ability to reacquire the properties it had when it was in its original state.

It is an alternative to our conventional waste disposal that helps to save material and help lower greenhouse gas emissions. In other words, it is a better way of waste disposal! Recycling can prevent the waste of potentially useful materials and reduce the use of fresh raw materials, therefore reducing energy usage, air pollution, and water pollution.

2.2 WHY IS RECYCLING IMPORTANT

Recycling is very important as waste has a huge negative impact on the natural environment. Harmful chemicals and greenhouse gases are released from the rubbish in landfill sites.

Recycling reduces the need for extracting, examples mining, quarrying and logging, refining, and processing raw materials. All of these would result in substantial air and water pollution. As recycling saves energy, it also reduces greenhouse gas emissions, which helps to tackle climate change. The reuse of such raw materials would, therefore, lead to a drop in the price of goods and produce, which would be a win-win solution for both the consumers as well as the producers.

2.3 WHAT IS UPCYCLING

Upcycling, also known as creative reuse, is the process of transforming waste materials and disposable, useless, or unwanted products into new materials or products that are perceived to be of greater quality, such as items with artistic value and environmental value. In other words, it is a better and upgraded version of our regular recycling which incorporates innovation and creativity!

2.4 WHY IS UPCYCLING IMPORTANT

Upcycling is just as important as recycling. Upcycling helps to reduce the pollution caused by waste. By doing this project, we will be able to raise awareness about the importance of recycling and upcycling.

For example, there is a brand in Singapore known as August Society which produces swimwear made from nylon which is made using recycled plastic taken from fishnets and carpeting.

Another example is the sportswear brand Adidas x Parley working together to prevent plastic from entering our oceans and transforming it into high-performance sportswear. Adidas has produced at least 6 million pairs of shoes by upcycling collected ocean plastics into yarn to make shoes.

As seen from these examples, it can be seen that Upcycling is crucial and would provide much material and resources for our society and industries if harnessed properly and to its full

potential. The reuse of these raw materials would also mean the search for new raw materials would decrease, leading to a drop in the price of goods, which would definitely be a win-win solution for both the consumers as well as the producers!

2.5 WHAT SINGAPORE HAS DONE FOR RECYCLING:

We made it compulsory that public waste collectors licensed by NEA are to provide recycling bins and recycling collection services to all HDB estates, private landed properties and condominiums/private apartments opted into the public waste collection scheme.

The NRP adopted a collection system in which paper, plastic, glass, and metal recyclables are deposited into the same blue recycling bin for collection by the PWCs. The mixed recyclables are then collected by recycling trucks and sent to Materials Recovery Facilities for sorting. After sorting, the recyclable materials are sent to recycling facilities for further processing. Collection of garden waste e.g. cut grass, leaves, and twigs, is also provided for private landed properties.

2.6 WHAT OTHER COUNTRIES HAVE DONE FOR RECYCLING:

Germany, as the top country in recycling,
Made sure that various municipalities and counties have carried out pilot projects for, or have permanently instituted the use of, a special type of recycling bin known as a Wertstofftonne, in which many types of recyclable materials can be placed to be recycled, and this has been done, for example, in Leipzig and Berlin.

The UBA has also conducted numerous studies that scientifically demonstrate the benefits of an optimised collection of recyclable materials and of amending recycling regulations accordingly.

Austria:
The results of the study show that about 0.92 million tonnes of plastic waste accrue in Austria annually. Approximately 77% of the plastic is contained in mixed waste with different plastic portions. 80% of the plastic waste is “post-consumer waste”; only 20% account for production waste. 28% are recovered; 71% of the plastic waste undergoes thermal recycling and 1% is deposited. The key objective of Austria’s recycling Project(known as the Austrian Project or AP) is to create a technical basis for plastics recycling in Austria comprising the following.

- For the sorting and recycling of plastic waste;
- Information concerning plastics recycling established in Austria
- Information on present impediments concerning the sorting and recycling of waste plastics.

In addition to AP, a survey of the sorting and recycling technologies for waste plastics and recoverable plastics presently available on the European market is to be compiled.

The information collected will serve as a basis for developing effective proposals and measures to increase recycled plastic waste in Austria. Based on the outcome of the study, statements on the recycling technologies in Austria will be presented.

South Korea:
Compensation for used home appliances, furniture, household goods, and free collection of scrap home appliances such as televisions, refrigerators, washing machines, air conditioners, microwave ovens, air purifiers, water purifiers, etc. Additionally, small home appliances can be collected when more than 5 items are discharged.

For the states that this applies to (Collection takes place every Monday to Saturday. In the case of unauthorized discharge, a penalty of less than 1 million won would be imposed.)

General waste discharge:
Put in a regular bag and dispose of it (food waste and recycled products are not allowed to mix). Non-combustible (pottery, broken glass, bricks, soil, etc.

Dispose of food waste: Dispose of food waste in a bag, payment certificate, and RFID pay-as-you-go machine. Food waste does not include hard-skinned nuts such as walnuts and acorns, seeds of stone fruits such as peaches and apricots, hairs and bones of cattle, pigs, and chickens, skins such as shellfish and conch, or remnants of herbal medicines, eggs, etc.

Large-discharge businesses such as restaurants over 200m^2 and group catering centers such as schools and hospitals are to dispose of waste directly through contracts with food waste disposal companies.

Discharge of recycled products: Place them in a transparent bag (can, bottle, plastic, etc.) or tie it with a string (paper, styrofoam)

to dispose of. Plastic items (ramen and confectionery bags, plastic packaging, etc.) are only disposed of on Thursdays.

2.7 WHAT COMPANIES HAVE DONE FOR UPCYCLING:

Intel:

They have reduced their climate footprint by investing in alternative energy and smarter technologies and facilities. They increased their climate handprint by helping other sectors reduce their footprints. Intel also works with others to improve the industry as well as policy. Since 2008, Intel has:

Invested more than $145 million into energy-conservation projects (saving an up to an estimated 3.19 billion kWh of energy).

Remained the largest voluntary purchaser of green power in the United States and had installed more than 40 on-site projects that use solar, wind, fuel cell, and other alternative energy sources worldwide.

In 2015, Intel purchased 3.4 billion kWh of green power, enough to meet the US electricity use 100%. In October 2015, they also joined the American Business Act on Climate Pledge.

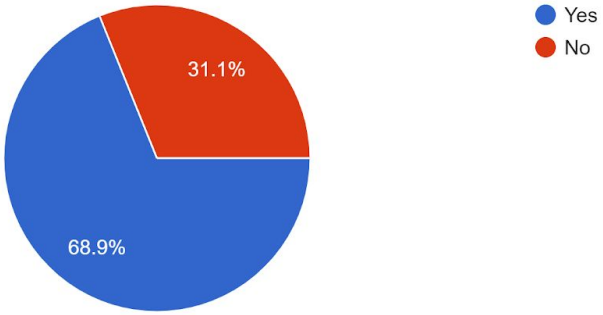
3 METHODOLOGY

3.1 NEEDS ANALYSIS

At the start of the year, we conducted a survey where we asked our friends whether they recycle or upcycle, how important is recycling and upcycling to them, how they recycle and upcycle things, and how they wish for us to promote it.

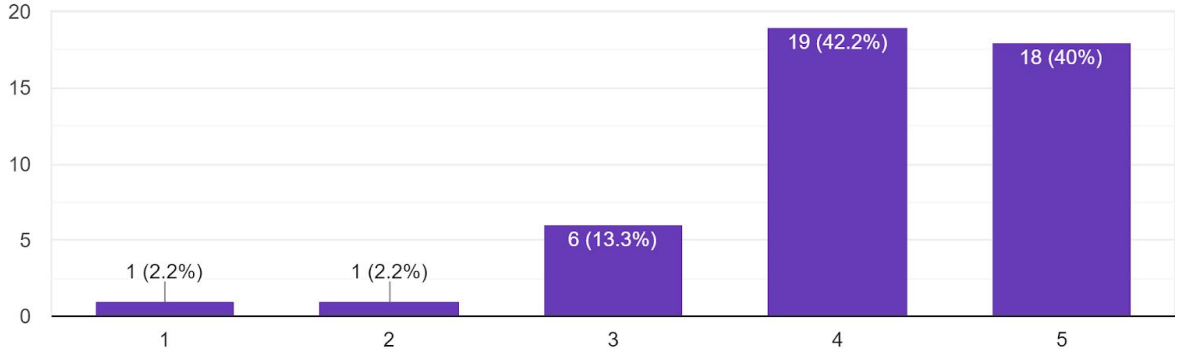
Do you practise recycling, reusing and reducing often?

45 responses



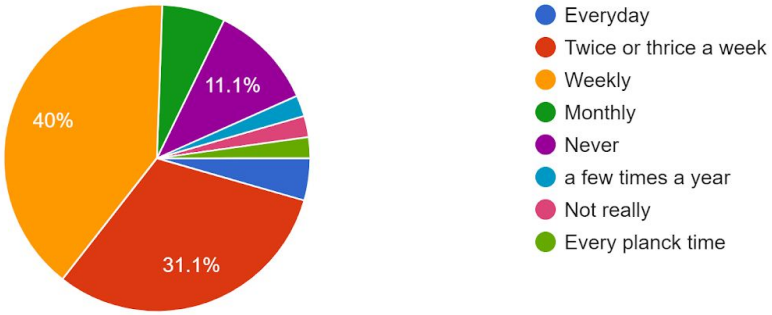
Honestly, how important is recycling important to you on a scale of 1 to 5?

45 responses



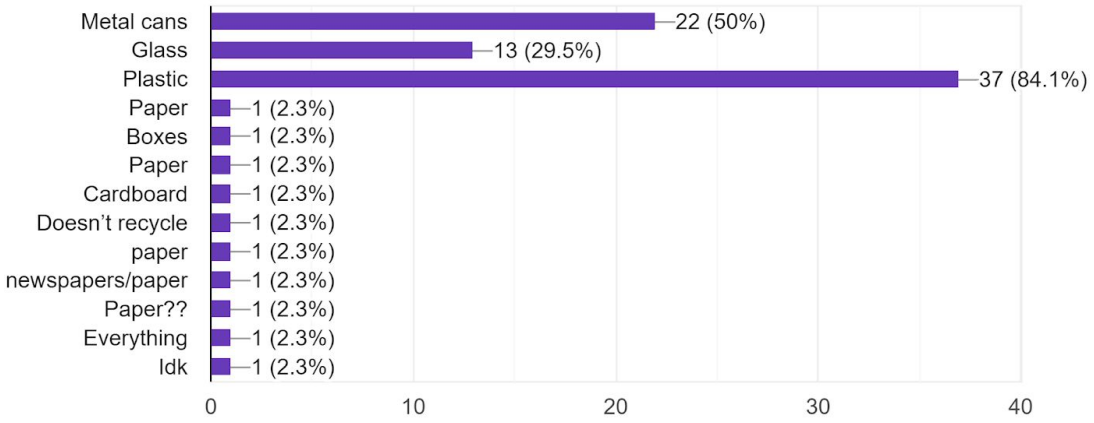
How often do you recycle?

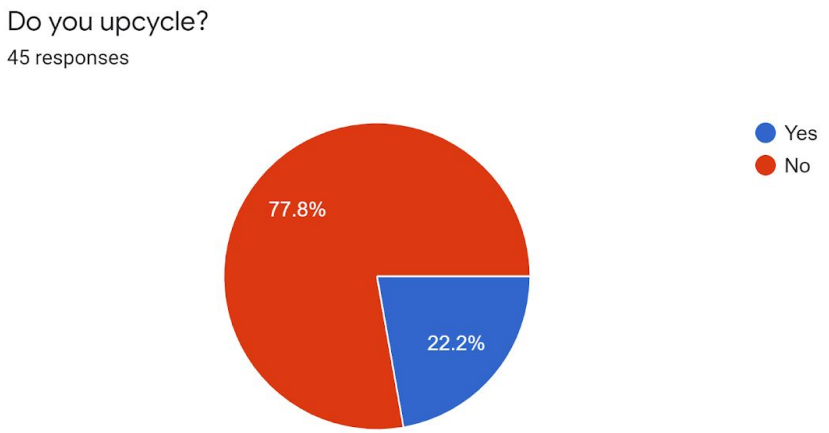
45 responses

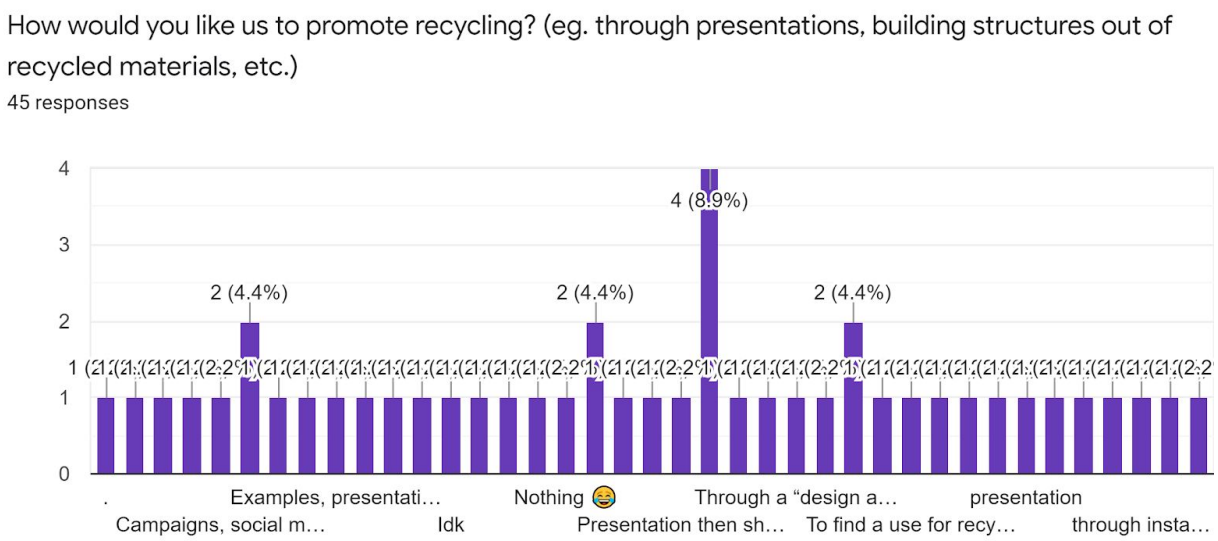


What do you recycle?

44 responses







3.2 SURVEY RESULTS

Based on the responses, we found that many did not have experience recycling and others were just too lazy to. Which is also another reason why we decided to make this recycling, upcycling packages and website to raise awareness about the importance of recycling and upcycling.

4 OUTCOME AND DISCUSSION

Lastly, we conducted surveys and pilot tests, collating feedback to improve on what we have done. Many of the results came from our classmates, with some coming from former school mates which we managed to contact. These feedbacks were used to create our final product. The results were also presented in our final evaluation slides.

In the survey, we asked classmates how they felt about our packages and websites, whether they have been attractive and whether they were effective in promoting recycling and upcycling.

5 CONCLUSION

The coronavirus has greatly affected our project this year because we could not meet face to face with our groupmates and we were also unable to present our project to many others due to the strict social distancing measures.

Despite all the restrictions, we resorted to meeting up on zoom. However, at home, there are many temptations and some of us lose focus easily. Regardless, we were still able to complete our project efficiently and on time.

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