

An Investigation into the Development of the UBC Free Store
Adil Kydyrbayev, Daisy Huang, Hsien-Hung Huang, Li Jun Lim

University of British Columbia

APSC 262

April 07, 2016

Disclaimer: "UBC SEEDS Program provides students with the opportunity to share the findings of their studies, as well as their opinions, conclusions and recommendations with the UBC community. The reader should bear in mind that this is a student project/report and is not an official document of UBC. Furthermore readers should bear in mind that these reports may not reflect the current status of activities at UBC. We urge you to contact the research persons mentioned in a report or a SEEDS team representative about the current status of the subject matter of a project/report".

APSC 262: Technology and Society II

An Investigation into the Development of the UBC Free Store

Adil Kydyrbayev

Daisy Huang

Hsien-Hung Huang

Li Jun Lim

Date of Submission: 7th April 2016

Tutorial Instructor: Dr. Dhanesh Kannangara

Abstract

This report was written to address the problems faced by an innovative concept newly introduced to the UBC community, the UBC Free Store. As a new establishment on campus, the free store receives little to no attention from students and faculty. They have little funding and few volunteers that dedicate their time to keep the store organised and maintain smooth operations.

During the initial client meeting, UBC Free Store approached the team with the problems it currently faces. While this largely involves promoting the store and getting more involvement from the UBC community, the problems addressed in this report include the following:

- How to promote UBC Free Store?
- What are students' prime material needs?
- How can the store expand the locations of its donation bins?
- How does UBC Free Store compare to similar stores in other campuses?

The scope of this project was constraint to the UBC community. While it was realised that the concept of a free store would also be beneficial to include larger scale communities such as the residents of Vancouver, it was determined that the free store has to first overcome its challenges in UBC before venturing its concepts outside of campus.

The methods taken to gather the information presented in this report included conducting a survey and researching the web about free stores on other campuses. Research on articles relating to the economic, environmental and social aspects of circular economy were also found and referenced in the report.

Results and important findings from the team's internal and external research process are also summarised in this report. As requested by the client, recommendations for both future APSC 262 students and the UBC Free Store are included in this report.

Table of Contents

Abstract.....	ii
List of Illustrations.....	iv
List of Abbreviations	iv
1.0 Introduction	1
2.0 Primary Source.....	2
2.1 Survey.....	2
2.2 Results	2
3.0 Secondary Source.....	3
3.1 Articles.....	3
3.2 Free Store Comparisons	5
4.0 Indicators	7
4.1 Economic.....	7
4.2 Environmental	8
4.3 Social	9
5.0 Recommendations	10
5.1 Advertising Strategies	10
5.2 Campus Collaboration Programs.....	10
5.3 Media Platforms.....	10
5.4 For Future APSC 262 Students	11
6.0 Conclusion.....	12
Appendix A.....	13
Survey Results	13
References	16

List of Illustrations

Figure 1: UVSS free store rules.	5
Figure 2: UVSS free store and food-bank.....	5
Figure 3: UVSS free store and food-bank.....	6
Figure 4: Average Estimated Full-Time Undergraduate Budgets by Sector, 2015-16.....	7
Figure 5: Comparing Recycled to Virgin Paper.	8

List of Abbreviations

SEEDS – Social Ecological Economic Development Studies

SUB – Student Union Building

UBC – University of British Columbia

UVSS – University of Victoria Student Society

1.0 Introduction

The UBC Free Store officially opened its doors in October 2015, at the basement of the old Student Union Building on the UBC Vancouver campus. Established with the noble idea of introducing circular economy within the school's community, the philosophy of the store was to provide a place for students and faculty members to exchange old or unused items for free. UBC Free store is currently affiliated with the UBC SEEDS program and work in collaboration with the student environmental centre at UBC.

As the UBC Free Store is a new addition to the campus community, it currently faces the challenges of advertising and obtaining funding and resources, including recruiting more volunteers for the store. Aware that many people are weary with the term "free", new ways of promoting the store include educating students on the concept of a circular economy, creating posters and using social media like Facebook, Twitter and Instagram. Organising events to introduce the free store to students would also be a good idea.

One of the long term goals of the UBC Free Store is to expand the locations of its donation bins, specifically on campus residences. At the same time, with sufficient funds, the store could also depend on trucks to transport collected goods in donation bins.

Volunteers from the UBC Free Store currently meet up once per week on Thursday at 1pm to plan events and sort items collected from the donation bins. They also work with commerce students in determining their marketing strategies to target students.

2.0 Primary Source

As an expected deliverable of the project, a survey was conducted to obtain valuable viewpoints from current UBC students of the concept of a free store, and to gather their suggestions for improvements. It was also the team's goal to determine favourable items and the prime material needs of students, for the purpose of improving the store by catering to students' interests and needs.

2.1 Survey

The survey was set up online through Google Forms and was distributed via one of the most popular social media platform amongst UBC students - Facebook. Questions were prepared with the focus on learning more about the behavioral aspects, personal opinions and preferences of UBC students. Students also gave constructive recommendations that are beneficial in the development of the free store. The list of questions that were on the survey is as follows:

1. Have you ever heard about UBC Free Store?
2. What do you think can be improved after your visit to the free store?
3. How many times have you visited the free store?
4. What kind of goods do you want to see on the free store shelves?
5. Would you donate your unused/old items to the Free Store?
6. If yes, what would you bring to the Free Store?
7. Do you think that the UBC Free Store is a good idea for the school community?

2.2 Results

The survey was well received, with a total of 60 responses. To summarise the results, many students have not heard about the UBC Free Store, but many are receptive towards the idea of a free store on campus. The most popular item that students would like to have at the free store is books. Hence, using this reasoning, investigations in the following economic, environmental and social indicators are targeted towards the impact from reducing books.

While the majority of the students (58%) have never visited the free store, those who have would like to see more quality stuff brought in and a more organised store. From these suggestions gathered from the survey, recommendations on how to regulate the quality of items as well as ideas to further promote the store were generated and will be discussed in Section 5.0.

The full survey results can be found in Appendix A.

3.0 Secondary Source

In addition to the primary source, we also investigated several secondary sources that would help to improve the UBC free store in terms of popularity and functionality.

3.1 Articles

As the UBC free store is a newly established concept, it has an issue regarding the popularity, because not enough students heard about it. So we came up with an idea to organize a survey for the UBC students and get the general picture of how famous the free store and how many people are heard or know about it. According to the results, it was clear that approximately 80% of the participants did not know about the existence of the free store on our campus. Hence, as our first task, we decided to find the ways of promoting the store by finding reliable and useful secondary sources. While researching the sources we referred to UBC's library databases, namely, Google Scholar, CIBC, and EBSCO. We make sure that all the resources are peer-reviewed, chronologically recent, and academic. As the result we mostly retrieved web articles and blog posts from the other educational institutions that support similar sustainability plan as UBC, and has their own campus free store.

The first source that we found useful was a web page that addressed only to the circular economy. One of the reasons of why we chose that web page was because circular economy and free store share a common ideology, and they both support sustainability program. As for another reason, because it is a web page its content is updated time to time, which implies that we can get fresh news or data about circular economy and projects based on the circular economy which could be directly related to the free store. In addition, the website is full of videos that explain the meaning of the circular economy, which is beneficial because they would provide those people who have not heard about a circular economy with a good background. By watching those videos, students will easily find the interrelation between circular economy and UBC free store (Ellen MacArthur Foundation, 2015).

Further we used an article source written by Kreha (2011) that introduces the concept of the free store, promoting the culture of reuse and sharing resources. It also discusses the history of the free store movement and the benefits of this service to the local community. The author further addresses the challenges that people faced running a free store and provides several constructive recommendations on how to start a free store. For instance:

- Finding a location; finding the location is the first and an essential part before running the free store (Kreha, 2011). We know that our free store is located in the old Students Union Building (SUB) which used to be a popular place among students in earlier times. Students used to spend their spare time in that place, but now, a majority of the

students prefer new SUB building, which can be the one of the possible causes of why the free store is not popular.

- Attracting volunteers; “Colleges and universities are great recruiting grounds for volunteers” (Kreha, 2011, para. 25). During the last workshop session with our client, we were informed that the free store idea was initially dedicated to attracting students in commerce programs, so we thought if the free store engaged commerce students, it would be a beneficial trade-off for both sides because students would gain an experience and free store would get the volunteers.
- Advertising in the community; the author explains that advertisement is crucial for the free store (Khera, 2011). Advertising is the most efficient way to attract everybody’s attention because it shows the existence of the store. There are many advertising methods and we suggest very simple ones because they are cost efficient, in other words, cheap. For example, we could do the posters and banners and put them not anywhere we want, but place them in the areas such as student housings, study rooms, and social halls. After every academic year international students who rent apartments, actively start packing up, and they might have a stuff in working condition that impossible to take with them, so they just throw it, but if they see the poster, they will bring it to the store, and in the result, it will increase the number of goods.
- According to Khera (2011) setting up activities and entertainment so they would attract attention and volunteers in the community; for example, organize a backyard sale or something like a garage sale, but with no money at all, so students can get what they want or donate their stuff.

The next source that we considered was the blog post, where the author wrote about a study done on college students ranging from the age of 18-24. They discuss the spending of an average college student. It was noted that students spend \$33 billion on “back to school items” which include clothing, makeup, technology, pens, paper and textbooks each year (Dellinger 2015). In addition, we gathered our own data among UBC students and ask them what they want to see from store’s shelves and most of the participants answered textbooks, clothing, PS / XBOX games, sports supplies, phone accessories. Inspecting these two data is important as it gives the notion of what students need and it may help free store to improve its functionality. By functionality, it is meant that the free store will be able to provide students with all their needs.

3.2 Free Store Comparisons

The University of Victoria Student Society's (2016) website is one of the examples of institutions that also have a campus free store. They discuss the reason for their free store which is to create a zero waste campus. On their website, UVSS include their operation hours, locations and the items that they accept for donation. All donations need to be considerably clean, their restrictions for donations are usually for items that interact with personal hygiene. Some colleges don't accept large furniture due to their limited space for items. All these sources are linked to the school website to promote a more sustainable campus. It does not state who wrote the page but it is credible because it just states their sustainability project. These sources can help with our project so we can compare what other schools are doing and how they are promoting the free store.

Free Store donations must meet the following guidelines:

- no clothing, furniture, or large electronics (mini fridges are OK)
- items must be clean and in working condition
- items must be useful to someone else!

Figure 1: UVSS free store rules.

(Retrieved from <https://uvss.ca/sub-services/services/food-bank/>)



Figure 2: UVSS free store and food-bank.

(Retrieved from <https://uvss.ca/sub-services/services/food-bank/>)



Figure 3: UVSS free store and food-bank.
(Retrieved from <https://uvss.ca/sub-services/services/food-bank/>)

4.0 Indicators

The team used the Triple Bottom Line (TBL) approach when generating ideas and concepts for the UBC free store. With this approach, the team was able to determine how it affects the economy, environment, and society.

4.1 Economic

As a new school year starts, many post-secondary students hunt for new textbooks. From our survey above, the items that students want to more are books and textbooks. An average estimate of the total textbook cost for an undergraduate degree is about \$1,200 (Collage Board, 2016). With the cost of textbooks increasing every year as new editions are published, most students cannot afford to purchase new textbooks, nor is it necessary. As a result, students buy and sell old textbooks at a discounted price. The seller of the used textbook may or may not make profit from selling the textbooks. The price of an old textbook may fluctuate depending on the supply and demand of that certain textbook. But most used textbooks are sold at a discounted rate which is less than half of its original cost. The students create and participate in their own circular economy, where they reuse old textbooks.

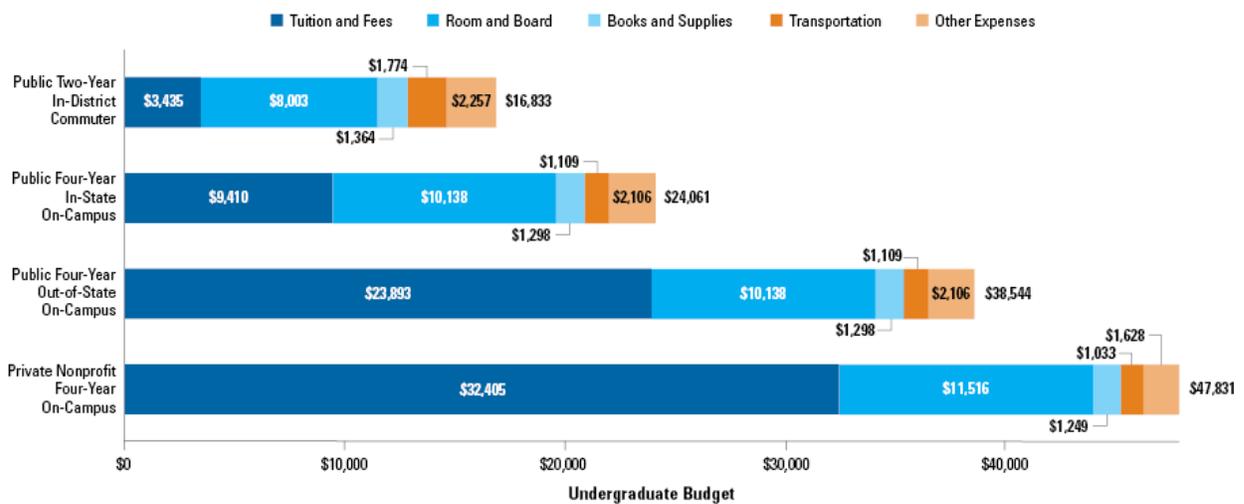


Figure 4: Average Estimated Full-Time Undergraduate Budgets by Sector, 2015-16

(Source: <http://trends.collegeboard.org/college-pricing/figures-tables/average-estimated-undergraduate-budgets-2015-16>)

The financial life cycle of a book includes the cost of makings of the book, cost of purchasing a book, and disposal of the book. The average cost of book of 200 pages is about \$20.00, and the cost required to make the book is only \$4.29 (Mill City Press, n.d). The market price is more than 4 times the cost of making the book. Now the disposal cost of a book can range from \$50/tonne to 150/tonne. Although the cost of recycling a book is substantially less than the cost of the book, the environmental factors are the trade-off of disposing the book. Libraries are another type of circular economy that is available to the community around.

People are able to borrow books when they need to free of charge unless the book is returned past its due date or if it was lost. If a book has been returned late, there are penalties of a fee of \$0.30 per day to a maximum of \$12 in Vancouver for people ages of 19 and older **Invalid source specified**.. Most library books have a lifespan of 30-35 borrows before it needs to be repaired or replaced (Horst, 2009).

4.2 Environmental

UBC free store is straightly connected with the circular economy, and they both pursue zero waste plan, in other words, they both supports sustainability. How does UBC free store make a positive impact on the environment? Regarding our survey, most of the participants answered that they would bring their old or unnecessary textbooks to the store. Hence, we will get a big stack of books, which can be taken by another student or can be sent to one of the local paper recycling centers. From the recycled papers, we would be able to produce the new stack of books, which will not be unnecessary anymore. Now, if we compare the production of paper by the recycling method with the production of paper by using new cut trees method, we can clearly see the difference between them. According to the Table 2.0, recycled papers do not need trees, so by producing 1 ton of recycled paper we are saving 24 trees from being cut. Recycled paper uses 33% less energy, 37% less greenhouse gas release, 49% less wastewater, and 39% less solid waste compare to virgin fiber paper (Kinsella, 2012). All the indicators are significant; therefore, free store is environmentally friendly and sustainable.

Virgin Fiber vs. Recycled Copy Paper ¹			
	1 ton virgin fiber paper	1 ton 100% recycled paper	Environmental Savings from Recycled Content
Trees	24 trees	0 trees	100%
Energy	33 million BTUs	22 million BTUs	33%
Greenhouse Gases Released - CO ₂ equivalent	5,601 pounds	3,533 pounds	37%
Wastewater	22,853 gallons	11,635 gallons	49%
Solid waste	1,922 pounds	1,171 pounds	39%

Figure 5: Comparing Recycled to Virgin Paper.

(Retrieved from: <http://conservatree.org/learn/WhitePaper%20Why%20Recycled.pdf>)

According to the survey results, students also gave the preferences to the CD discs. It might be obvious why students want to see CD games for XBOX and PS because nowadays these gaming platforms are famous and affordable, but it might not be so obvious how exchanging or donating the disks can be helpful to the environment. The Recycling Center of America (2016) in their website indicated how the disks can be recycled.

CDs can be recycled for use in new products. Specialized electronic recycling companies clean, grind, blend, and compound the discs into a high-quality plastic for a variety of uses, including:

- Automotive industry parts.
- Raw materials to make plastics (Discs are ground into a gravel-like substance, which is sold to companies that melt it down and convert it to plastic).
- Alarm boxes and panels, street lights, and electrical cable insulation.
- Office equipment.

In addition, they explain that similar to the virgin paper and recycled paper, recycled disks are more environmentally friendly than newly manufactured disks because new disks require more energy and resources while recycled can be used as a component of other industrial goods. Metaphorically we can assume that free store is a bridge that connects students with sustainability.

4.3 Social

As products are being recycled and reused in different ways, many social aspects are affected by the circular economy. Many businesses that try to transition to the circular economy encounter barriers and limitations. There are often non-financial barriers that hold companies back from transitioning, but policymakers play a crucial role in helping the businesses achieve the goal of being apart of a circular economy (Ellen MacArthur Foundation, 2015). Moving from a linear to a circular economy has many beneficial factors and unfortunately, there are also consequences that come with the benefits.

There are large ranges of benefits of the circular economy. With circular economy in mind, many products are designed to not produce waste (Ellen MacArthur Foundation, 2013). People become more innovated with their designs and are challenged to think outside of the box. This creates a great opportunity for people to become more educated and learn more about what they can do to be more sustainable. The idea of deconstruction rather than demolition creates more long term jobs (Ellen MacArthur Foundation, 2013). Although demolition is easier and faster, it only creates short term jobs and there are no learning opportunities from it. If products are designed to not be disposed after a short lifespan, people will be educated to help maintain and repair items. Not only will this create more stable jobs, it also gives the opportunity for people to obtain a higher education.

Transitioning from the linear “take-make-dispose” to the circular approach puts some businesses in danger. Many short term disposable items would have an oversupply while the demand for these items decreases over time. With the supply greater than the demand, some businesses may go out of business and there would be some people who would lose their jobs. Also once a product is used over and over, it gets worn out and the quality of it diminishes. Even though products can be repaired, it can never reach back to its original condition.

5.0 Recommendations

5.1 Advertising Strategies

In order to increase the popularity of UBC Free Store, it is recommended that the volunteers in UBC Free Store continue to make more flyers and posters due to the reason that the majority of students on campus have never heard of the free store. Passing out flyers and hanging poster on campus are very cost effective and efficient for promoting UBC free store as the operational cost is relatively low and the information can be changed or updated frequently. Posters and flyers are also very easy to distribute. Densely populated areas on campus such as, Irving K Barber Learning Center and Buchanan buildings are targeted in order to increase the effectiveness of promotions.

Aside from making posters and flyers, holding any kind of activities and events can also be very effective at attracting attention and volunteers; for instance, in the case of the free store hosted by an organization called the Peace House in Brookland, they have monthly event called “No Trade Saturdays”, where people are able to take items without giving away their own stuffs, resulting an approximately of 250 people stopping by over the course of four hours (Wang, 2015). UBC Free Store can definitely learn from their experience and implement similar events that are tailored to its current status.

5.2 Campus Collaboration Programs

To increase the amount of inventories that are available in store, UBC Free Store can collaborate with UBC Housing to help students dealing with their unwanted stuffs when moving out of the residence and redirect them into the free store. Currently, UBC Housing has its own waste management program that helps students to recycle and donate their unwanted belongings to Discovery Book, AMS Food Bank, and the Developmental Disability Association (UBC, 2016). If we can redirect a portion of donated items into UBC Free Store before donating them to other organizations, it will not only increase the amount of inventories available in store but also increase the liquidity of inventories and chances of getting these unwanted items being reused.

5.3 Media Platforms

Nowadays, people have greater access to information through the use of internet and are becoming extremely dependent on it, creating an online item exchange website can greatly improve the popularity of UBC Free Store and help students to find their desired items.

Social media platforms such as Facebook, Twitter and Instagram are all suitable for setting up this online item exchange service. By creating an online wish list system, it becomes more convenient and effective for students to find and exchange stuffs (Wang, 2015). It can also help

students to find and trade larger items such as furniture, containers, and printers that UBC Free Store cannot provide currently due to its limited space.

5.4 For Future APSC 262 Students

As the UBC Free Store is still currently a newly established concept to UBC campus, many ideas recommended at this stage will be newly implemented. Hence, the team's recommendations for future APSC 262 teams working on this project for UBC Free Store are as follows:

- 1) Re-evaluate the ideas and strategies recommended to promote the UBC Free Store as discussed above. How well are they working? And if not, how can they be modified to work better?
- 2) Communicate with people involved with the store to determine if they have enough funds to organise campus-wide events for promotional purposes. If not, communicate with them to determine the best ways to seek more funding.
- 3) Recommend to relocate the free store. As less students frequent the old SUB (especially the basement), it might be time to change the location of the free store to a more frequently accessed area
- 4) Talk to Business students to find out more about marketing strategy that could help the store
- 5) To learn more about students' needs, set up a booth at the SUB to talk to students. This would not only give first-hand insights to what students think of the free store, but it would also provide the opportunity to promote the store.

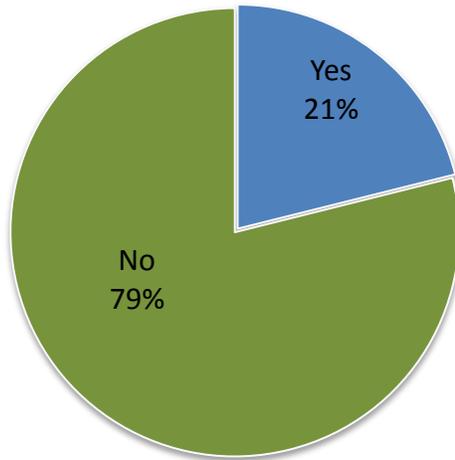
6.0 Conclusion

From the result of the survey, the students' prime material needs, suggestions, and expectations for UBC Free Store were collected and delivered into the decision making process for determining proposed recommendations. In order to promote UBC Free Store, sending out flyers and hanging posters are considered to be the most optimal option for advertisement on campus. To increase the amount of items in the free store, campus collaboration and redistribution program is suggested. Although the main scope of this project emphasizes on improving the operation and physical presence of UBC Free Store, social media platforms seem to be a superior option for students to exchange items and promote the concept of circular economy. With the implementation of the proposed strategies and programs, UBC Free Store can certainly gain more attentions from the UBC community and improve its current operation.

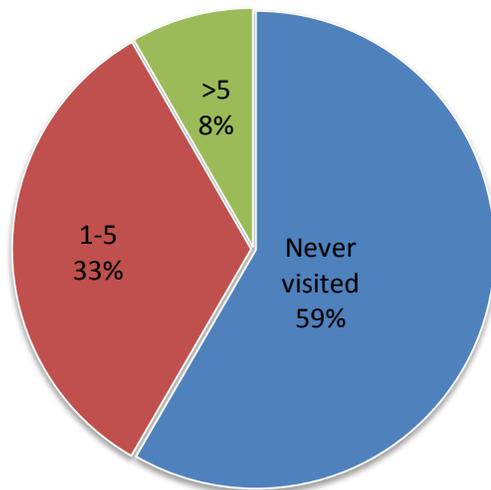
Appendix A

Survey Results

1. Have you ever heard about UBC Free Store?



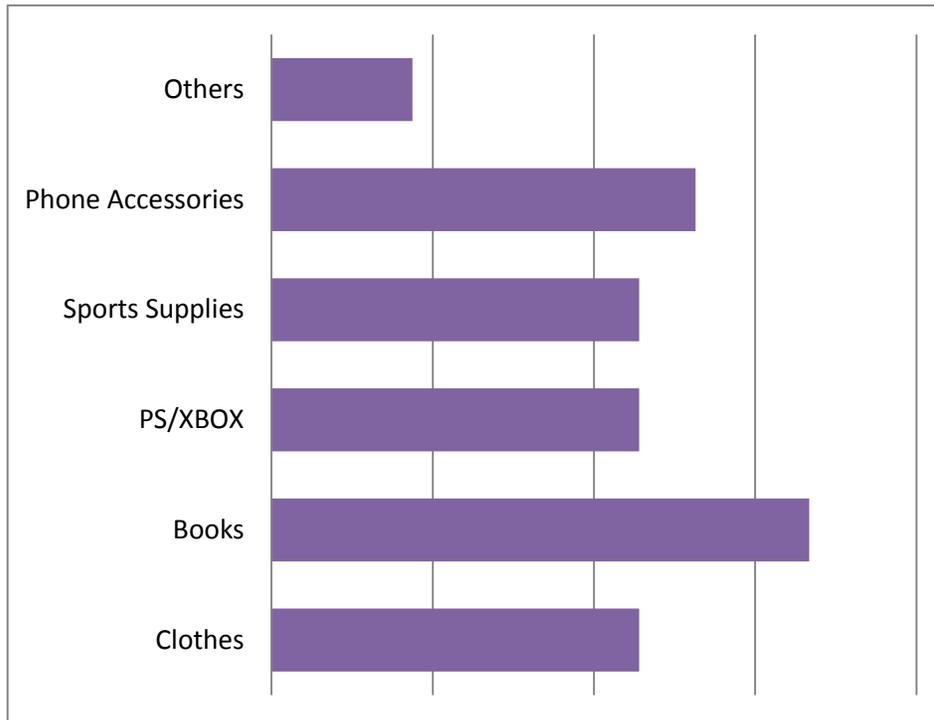
2. How many times have you visited the Free Store?



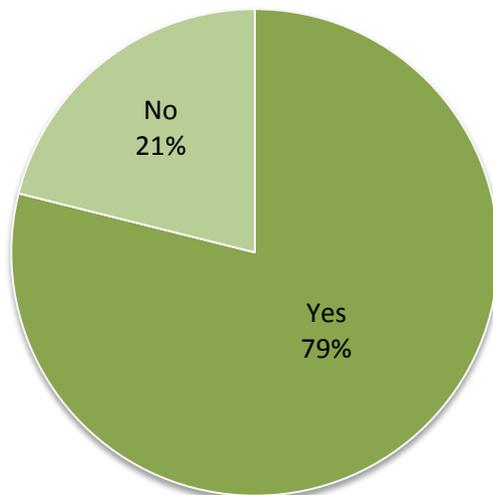
3. What do you think can be improved after your visit to the free store?

- Need more items on the shelf
- Improve on the quality of stuff people bring in
- More organised, more items and more catchy signage or decorations.

4. What kind of goods do you want to see on the free store shelves?



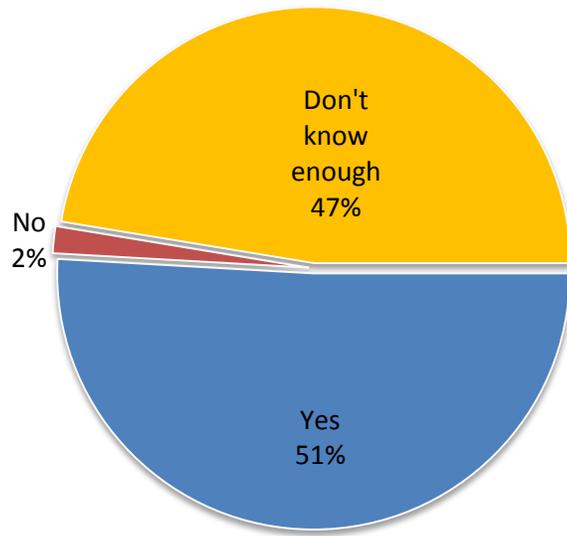
5. Would you donate your unused/old items to the Free Store?



6. If yes, what would you bring to the Free Store?

- Clothes
- Books/Textbooks and craft supplies
- Old electronics
- Furniture
- Kitchen utensils

7. Do you think that the UBC Free Store is a good idea for the school community?



References

"Circular Economy - UK, Europe, Asia, South America & USA | Ellen MacArthur Foundation."
Circular Economy - UK, Europe, Asia, South America & USA | Ellen MacArthur
Foundation. N.p., n.d. Web. 23 Feb. 2016.

Collage Board. (2016). Trends in Higher Education: Average Estimated Undergraduate Budgets
2015-2016. Retrieved from Collage Board: <http://trends.collegeboard.org/college-pricing/figures-tables/average-estimated-undergraduate-budgets-2015-16>

Ellen Macarthur Foundation. (2013). Towards the Circular Economy.

Ellen Macarthur Foundation. (2015). Delivering the Circular Economy: A toolkit for
Policymakers.

Horst. (2009, June 25). On the life span of books at The Library. Retrieved from The Aardvark
Speaks : <http://homepage.univie.ac.at/horst.prillinger/blog/aardvark/2009/06/on-the-life-span-of-books-at-the-library.html>

Mill City Press. (n.d). Book Printing Cost. Retrieved from Mill City Press: <https://www.millcitypress.net/author-learning-center/book-printing-costs>

The Recycling Center of America. (n.d.). Retrieved April 07, 2016, from <http://cdrecyclingcenter.org/learn/facts-general-information>

UBC. (2016). Mindful Move Out. Retrieved April 6, 2016, from <http://vancouver.housing.ubc.ca/residence-life/moving-out/>

University of Victoria Student Society . (n.d.). The UVSS Food Bank & Free Store. Retrieved from
UVSS: <https://uvss.ca/sub-services/services/food-bank/>

Wang, Y. (2015, August 13). The Buy Nothing movement: Give up your stuff and pick up some
friends - The Washington Post. Retrieved April 5, 2016, from <https://www.washingtonpost.com/life>