

**Final Community Project Report: Community  
Based Experiential Learning with the Breakfast  
Club of Canada**

**Sunday, December 4, 2016**

## **Introduction**

The purpose of our project was to understand the spending patterns of Northern British Columbia (BC) schools on breakfast food ingredients. We partnered with the Breakfast Club of Canada (BCC) to work collaboratively on improving the efficiency of money expenditure, to allow for the prioritization of nutrient dense foods for breakfast programs.

Food security is when “all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life” (FAO,1996). In 2012, 16.4% of households in Northern BC experienced food insecurity, compared to the provincial average of 11.8% (Wakefield, 2016). The higher prevalence of food insecurity can be attributed to factors such as physical barriers because of the limited access to local food outlets and lack of reliable transportation (Ostry, 2010) to locate nutritious food. Other contributors are also higher unemployment, greater dependency on income subsidies, and lower education (Community Health- Burns Lake, 2014; Community Health- Fort Saint James, 2014).

The BCC seeks to overcome these factors faced by Northern BC by giving financial aid to 15 schools from Prince George to Prince Rupert. However, the accessibility challenges make it difficult for school faculties to efficiently purchase food. Many of these communities lack a large grocery store, and thus, the communities resort to buying food from local, small grocers and farmer’s markets. This is a more expensive method because larger grocery stores (Safeway) offer regular bulk deals (Roth, 2016). Since BCC programs feed upwards of 20 students per day, effective spending is essential (Ryan, personal contact).

The BCC’s goal is to ensure students in their breakfast program receive maximally nutritious food, despite the food insecurity issues faced by many Northern BC communities.

## **Significance:**

Consuming breakfast breaks the longest fasting period within the 24-hour day cycle, and if missed, children are without food for 15-17 hours. (C.R. Mahoney *et al.*, 2005). Breakfast helps to control the metabolic response to overnight fasting conditions, to supply nutrients to the central nervous system (Rampersaud *et al.*, 2005). In addition, students who consume breakfast eat a more complete nutrient profile in categories of micronutrients, macronutrients, and fiber ( Rampersaud *et al.*, 2005). These benefits are not only based on consumption, but also on the quality of food. Students who consume a more nutritious breakfast are seen to have the greatest performance (Mahoney *et. al.*, 2005).

The significance of this work can be seen through heightened achievement of students who participate in such programs. The BCC is an organization who aims to provide nutritious meals to children, who would otherwise attend school hungry (Our Mission, 2016). The role the BCC plays is essential to the development and education of students. Improvements seen in children’s test performance (Benton and Jarvis, 2007), auditory attention, spatial memory, short term memory, and cognitive development (C.R. Mahoney *et al.*, 2005) have all been attributed to eating breakfast. Students who miss breakfast or eat a breakfast of less than 150 calories are more likely to be distracted, off task, or lose focus (Benton and Jarvis, 2007). The BCC not only provides financial support to schools, the equip schools with fully functioning kitchens, associate them with community food partnerships and ensure students receive a healthy breakfast through

monitoring food purchases, and providing health guidelines to help students meet their daily nutrient intakes.

**Objectives:**

- Identify spending patterns related to each food group.
- Compare expenditure of food procurement from different communities in Northern BC.
- Suggest improvements that schools can make to efficiently use the monetary donation to purchase high quality food.

**Inquiry Questions:**

By assessing the objectives for this project, several questions can be noted below:

- What is the allocation of money to each food group? Do schools focus on healthy food?
- What is the price discrepancy of food between Northern BC communities?
- What potential is there for partnerships with food distributors in this area?

**Methods:**

We began our project by creating a timeline with our community partner (Table 1). Our first task, was cataloging two months of receipt data for the 15 schools studied to track their spending patterns (Appendix B). The data was recorded using a Google spreadsheet to allow for simultaneous collaboration alongside our BCC contact. Our methodology included research to develop food system summaries of each school’s community. This was used to compile spending profiles for each school; including food assets, food security challenges, population, and a financial breakdown.

In addition, we researched and contacted food distributors to inquire about potential partnerships that could be established. We developed distributor profiles, which included price comparisons between distributors and school’s current resources. Lastly, we compiled a 2-page assessment of food insecurity faced by these communities.

**Table 1** A rough timeline, suggested by our community partner, to guide our project’s methods through to a timely completion.

	Project Steps	Target dates
Cataloging Phase	Receive school receipts from community partner	Oct 7
	Transfer receipts into google docs for analysis	Oct 7-21

	Fill in information gaps through online research, and contacting schools	
	Meet with community partner to touch base and discuss progress	Oct 22
	Incorporate feedback from community partner, including creating food distributor profiles and price comparisons	Oct 22- Nov 24
	Report completed and ready to be viewed by community partner	Nov 4
	Community partner provides feedback and suggestions for additional tasks	Nov 11
Development Phase	Brainstorm future directions for the project and creative development strategies for the target schools with guidance from our community partner	Nov 12-24
	Project completed	Nov 25

**Results:**

Receipt data tables were analyzed into financial breakdowns which demonstrated how much money was allocated to different food groups and total spending cost of each school (Table 2). Results showed 6/15 schools allocated no money to beverages. Five out of fifteen also failed in purchasing any meat for their programs. The grains and dairy categories held a large percentage of the overall spending for most schools, some being over 80% (Ron Brent Elementary). Price comparisons between communities demonstrated smaller communities had higher priced food, while larger communities had lower priced food (Figure 2).

Figure 1: Comparison of Spending Patterns between Prince George (Nusdeh Yoh) and Kitwanga.

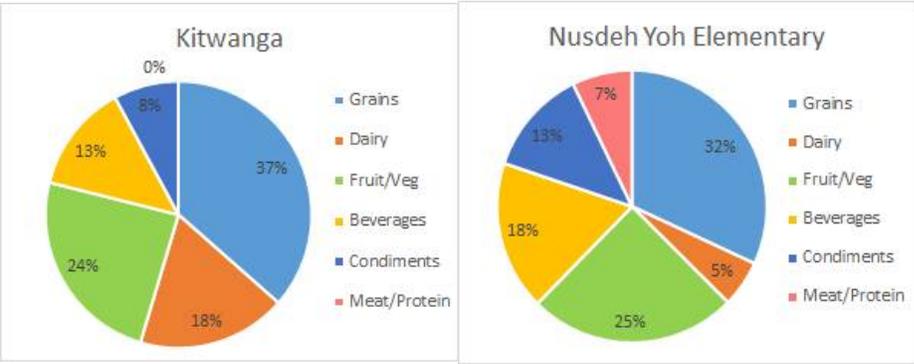
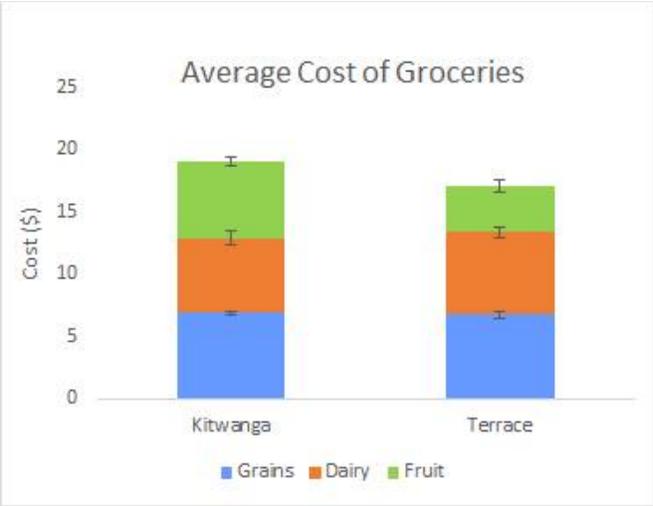


Figure 2: Example of Average Cost of Groceries from Small Community vs. Medium Community. Population of Kitwanga is 480. Population of Terrace is 11, 486.



Through building food distributor profiles, we found 10 potential food distributor partnerships. Of the ten, three willing to develop partnerships with the BCC; Horizon Distribution Centre, Sysco, and Sevco. Comparison profiles were built using the distributors price and current school cost (See Appendix A)

**Discussion:**

Differences in prices were present between small and large communities due to proximity to wholesale food outlets compared to local grocers. Having the BCC partner with the three, new, food distributors, would increase the spending efficiency of schools. Through our receipt analysis, we identified that products that the schools purchase often were milk, bread and eggs, with eggs and milk both being cost heavy items.

According to our community partner, the Breakfast Club under funds schools to prevent them from becoming too reliant on outside funding. They allow schools to make their own purchase choices, with gentle suggestions, along the lines of asset-based community development as described by Mathie & Cunningham in their 2003 article. However, some schools we examined spent a significant amount of their funding on less-healthy options such as

sweetened yogurt, white bread, and even Eggo waffles. When a problem is present, such as the quantity of refined sugar purchases by schools, a space for a creative solution arises (Hardford, 2016). These results emphasize the need to balance autonomy within community-led initiatives, integrate outside guidance from nutrition professionals, and develop healthy recipes. We do recognize limited funding to be a factor here, but there is still need for schools to find ways of incorporating healthier choices into their diet.

Kitwanga spends a similar proportion of their funds on fruit and vegetables compared to Nusdeh Yoh Elementary, located in the largest town, Prince George (24% and 25% respectively). However fruit and vegetable prices are higher in isolated Kitwanga than in larger towns and thus, they are buying less despite the equal amount of money spent. Bradley and Herrera found similar findings, in that food justice is a major issue in our society (2016), and that high prices and food insecurity disproportionately affect small and isolated communities.

Our project focuses on increasing efficiency of school expenditures. One of our objectives was to identify which schools faced the greatest challenges in food access. However, due to natural differences in each school's purchases, it was often difficult to meaningfully compare food prices between different schools. Additionally, because we analyzed our data without actually contacting our target communities, we were often forced to make assumptions while recording and analyzing data. Direct contact with school representatives would have helped us gain a better understanding of the reality of the program and streamlined our analysis.

## **Conclusion:**

The prevalence of food insecurity in Northern BC challenges the BCC in providing students with nutrient dense breakfasts. Our research showed that many communities have limited access to food assets which affects the affordability and availability of breakfast ingredients. Moreover, comparing the schools in different communities allowed us to identify those facing greater challenges associated with food insecurity. The receipt analysis proved that the purchases of schools do not align with the dietary needs of children. Moving forward with the development of new food distributor partnerships, schools can purchase breakfast ingredients more efficiently by placing a greater focus on the food quality and the dietary needs, rather than prices. Moreover, integrating health professionals such as Registered Dietitians or Nutritionists, would be a great way for schools to get the nutritional support in designing meals.

Limitations in our research included the potential for schools to lose or miss receipts, which would have impacted our analysis of the spending patterns of each school. Further research should investigate why the government has not taken a greater priority developing food assets in isolated communities in Northern BC. Government funding could increase the availability and accessibility challenges faced by Northern populations.

Most importantly, we believe that breakfast programs are a great hands on teaching tool for students. Being an active part of the program, students will be able to learn about making healthy choices, cooking meals, and developing healthy eating habits for the future. This can include starting extracurricular clubs or inviting classes to prepare breakfast. The key to success is having healthy food available, that kids want to eat.

## Critical Reflections

Student 1:

This project has not only given us the opportunity to develop skills that can be used in the working world but has also given us the chance to really make a difference. Establishing the potential for new partnerships with food distributors would greatly increase the spending efficiency of these schools and provide more kids with better and more nutritious breakfasts. All in all, despite being a lot of hard work, we were lucky to be able to do research ourselves. Instead of referring to studies already completed, we were able to analyze the receipts ourselves and see firsthand how these schools were spending their money. Really getting to the root of the problem in terms of spending efficiency means that Robin and the Breakfast Club of Canada can take what we found to better improve their breakfast programs. This project was extremely rewarding given that we are able to change the lives of many kids in Northern BC. Changing and improving anyone's life would have been rewarding but altering the eating habits of children is especially important. The habits that they develop at a young age will follow them through life and will hopefully lead to them teaching their future kids how to eat more nutritious breakfasts. We were very fortunate to have a project such as this.

Student 2:

The BCC project has been a very eye opening experience for me. It is very easy to assume that an industrialized country like Canada would have minimal to no incidences of food insecurity. The BCC helps to mitigate this by supporting schools to provide free nutritious breakfast every morning thus ensuring that the students can thrive in schools. One of the reasons why this project was so fulfilling is because we got to do most of the work ourselves. We did research, receipt analysis, summary and interpretation of data, contacted food distributors to establish potential partnerships with schools etc. This gave us a sense of the amount of work and thought that goes into running a program like the BCC and to appreciate all the hardwork that goes into it. I not only gained useful skills like financial analysis and professional communication but I am also more aware of the unique challenges that communities face in terms of food security. Part of what made this project a huge success was how well we worked as a group with support and guidance from our community partner Robin. We all made significant contributions to the team and this enabled us to complete all assigned tasks efficiently. We took advantage of the flexible learning sessions to get a head start on tasks and to get each member's input. I am glad that I was a part of this and I hope that our group's contributions can make a difference, however small.

Student 3:

Overall, I loved my experience working with the Breakfast Club of Canada for our CBEL. Not only is it an organization that I am very passionate about, we had the opportunity to work alongside a community partner who was dedicated and invested in the work we were doing. I felt very supported throughout the durations of the research assigned, and in research I was personally interested in. I was able to collaborate with Robin Ryan, in developing an idea called the Jam Project, which is an initiative to reduce sugar intake of students across Canada.

It took time to adjust to the format of LFS 350, with the ever changing lectures, tutorials, and work periods. Upon reflection, I think the structure really benefitted what we were out to accomplish. I really appreciated the flexible learning periods because it gave our group a three hour work period that was already incorporated into our schedules. The flexible learning periods, also allowed us the time to collaborate in person with our community partner. For our group that included in-person meetings, and attending a breakfast program at Alderson Elementary School in Coquitlam. These experiences provided us with real world context, that could be applied to the goals of the BCC, and inspiration to the “why” behind our project. In addition to our collaboration with the BCC, we were able to collaborate within our work group. Our group was composed of individuals with different ethnic and academic backgrounds, which gave us a unique approach to our assignment. Although we faced challenges this semester, it was overcoming those barriers where I felt I learned the most. Thank you for a great semester, and being so invested in our academic experience.

Student 4:

Working with the Breakfast Club of Canada for our CBEL was a very rewarding experience for many different reasons. This was an unforgettable experience because we worked alongside an amazing organization and community partner to address issues such as food insecurity which I’m very concerned about. Throughout the CBEL project I got to learn valuable skills such as receipt analysis, research conduction, and data interpretation. What made the CBEL project unique was that while doing the data interpretation and analysis I knew that I was working with real community data, and that my work will be used to enhance the breakfast programs which affect the lives of many children. Moreover, unlike many other projects, in this CBEL project we conducted the research ourselves through the use of available data from receipts and information about the communities to make decisions and reach conclusions. For example, we researched food assets and geographical locations of communities in order to select and contact suitable food distributors to establish new partnerships. The flexible learning sessions were very productive. Through these sessions our group was able to make lots of important decisions, and collaboratively work together. Also, since all group members were available in the flexible sessions we were able to arrange meetings with our community partner, and experience the Breakfast Program in a hands-on manner which made this project much more unique and personal. This was a wonderful experience and I’m very happy I was part of this CBEL project.

Student 5:

Before taking LFS 350, I really worried about the amount of works that required to be done in this course based on what I heard from previous students. But looking back at where we started, I can confidently say that I am in the best team ever. Everyone is patient with me even though sometimes I have problems in expressing my own opinions. Working with the Breakfast Club of Canada (BCC) was absolutely a unique experience for me, and this is the first community project that I participated in and took real actions to make contributions. As a team, we firstly made a detailed proposal to set up our goals, objectives, and approaches. By meeting and emailing Robin, we gained more details about what we need to do in this project and got feedbacks from him so that we could ensure our work met his requirement. By professionally analyzing receipts from 15 communities that have partnership with BCC, we gained insights into how these schools

allocated money on different food groups. In order to help schools find ways to efficiently use money provided by BCC, we contacted food distributors to find potential partnerships. All of these actual actions made me feel that I was able to use theoretical knowledge to help contribute to food security among children. Overall, although this project did require lots of work from our group, I still consider this experience is worthy as it is able to contribute to my community.

Student 6:

At the beginning of the course, the size of the community project and the work we were about to undertake was intimidating. However, as the term passed and our group was able to work together and support each other through each task our goals seemed more and more attainable.

Interacting with our community partner and taking part in one of their programs was one of the most inspiring parts of the project. The Breakfast Club of Canada is an organization that makes a difference to children across the country, and being even a just a small part of that was amazing. This project was a perfect opportunity to work in a real-world setting, and gain experience dealing with all that it entails. Not only the exciting hands-on volunteer work, but the experience of slightly monotonous data entry and research. In addition to the project, our multimedia pre-readings and lectures supplemented our experiential learning. I found there was a good balance between lectures and traditional learning in the classroom with flexible learning sessions dedicated to our project. Working in a group sometimes presents challenges, but for our project and the amount of work it entailed, a large group was essential, and our collaboration has gone smoothly thanks to our amazing and hard-working members. Presenting the results of our project on an online platform for the world to see is a bit frightening, but knowing all that we accomplished this year, we can do it with confidence.

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## Appendix A

Comparison for Prices for Staple Items between Horizon Distribution Center and stores that already had partnerships with the 15 schools

School or Distributor	2% Milks Unit: 1L	Bread (assorted) (Note: weight of one loaf is approx. 600g)	Eggs Unit: per dozen
Horizon Distribution Centre	\$3.17	\$3.75 per loaf	\$5.13
Muheim School (Smithers)	\$2.38	\$3.45 per loaf	\$3.63
Babine Nation (Burns Lake)	\$2.38	\$1.50 for 520 g	\$2.85

		(~ \$1.72 per loaf)	
Cassie Hall (Terrace)	\$1.74	\$3.87 for 907 g (~ \$2.56 per loaf)	N/A
Eugene Joseph School (Fort St James)	\$1.70	\$2.175 for 676 g (~ \$1.92 per loaf)	\$3.06
Fort St James (FSJ)	\$1.70	\$3.09 per loaf	\$2.97
Fraser Lake Elementary-Secondary (Fraser Lake) C.S	\$4.70	N/A	\$2.97
Grassy Plains (Grassy Plains) [CS]	\$4.45	\$5.49 for 570 g (~ \$5.78 per loaf)	\$5.99
Houston Secondary (Houston) [CS]	\$1.19	\$4.49 for 675 g (~\$3.99 per loaf)	\$2.86
Kitwanga (Kitwanga)	\$1.57	N/A	N/A
Nechako Valley (Vanderhoof)	\$2.19	\$4.99 per loaf	\$3.12
Nusdeh Yoh (Prince George)	N/A	\$3.30 for 900 g (~\$2.2 per loaf)	N/A
Parkside Secondary (Terrace)	N/A	N/A	N/A
Ron Brent Elementary (Prince George)	\$1.57	\$3.30 for 900 g (~\$2.2 per loaf)	\$3.12
Thornhill Primary (Terrace)	\$1.32	\$4.99 for 615 g (~\$4.87 per loaf)	\$2.88
Skeena Middle (Terrace)	\$1.16	N/A	N/A

Appendix B: Spending Patterns in Kitwanga. Example of Receipt Database.

Item	Store / Distributor	Quantity	Unit	Cost	Cost / unit
<b>Grains</b>					
Dempsters Prem. Bagels Blueberry	Kitwanga General Store	6	6 bagels	\$21.00	\$3.50
Dempsters Prem. Bagels Original	Kitwanga General Store	2	6 bagels	\$7.00	\$3.50
Dempsters Whole Grains (premium 12 grain bagel)	Kitwanga General Store	6	6 bagels	\$21.00	\$3.50
Deli World Wh.Wheat Restaurant style sandwich	Kitwanga General Store	3	900 grams	\$14.67	\$4.89
Dempsters Prem. Bagels Blueberry	Kitwanga General Store	2	6 bagels	\$8.98	\$4.49
Dempsters Prem. Bagels Original	Kitwanga General Store	1	6 bagels	\$4.49	\$4.49
Dempsters Prem. Bagels Cinnamon Raisin	Kitwanga General Store	1	6 bagels	\$4.49	\$4.49
Dempsters Whole Grains (ancient grains with quinoa)	Kitwanga General Store	1	6 bagels	\$3.00	\$3.00
Dempster sign 100% Whole Wheat	Kitwanga General Store	1		\$4.49	\$4.49
Kellogs Jumbo Vector Cereal	Kitwanga General Store	3		\$20.94	\$6.980
Kellogs Mini Wheats jumbo brown sugar	Kitwanga General Store	2		\$13.96	\$6.980
GM Cheerios	Save on Foods	2		\$15.38	\$7.69
Shreddies	Save on Foods	1		\$5.79	\$5.79
Kellogs Mini Wheats	Winners	1		\$10.29	\$10.29
Kellogs Raisin Bran	Winners	2		\$20.78	\$10.39
Kellogs Special K	Winners	1		\$7.19	\$7.19
Kellogs Vector	Winners	2		\$21.18	\$10.59
Mini Wheats Cereal	Winners	1		\$10.29	\$10.29
Multi Grain Cheerios	Winners	2		\$19.98	\$9.99
Rice Krispies	Winners	3		\$37.47	\$12.49
Shreddies	Winners	2		\$19.78	\$9.89
<b>Dairy</b>					
Dairyland 2 PC Milk	Kitwanga General Store	20	4L	\$125.80	\$6.290
Kraft 48S Single Slices	Kitwanga General Store	3	900 grams	\$26.94	\$8.980
Philly Cream Cheese Tub	Kitwanga General Store	1	227 grams	\$5.19	\$5.19
Philly Cream Cheese Tub	Kitwanga General Store	2	227 grams	\$7.00	\$3.50
<b>Fruits</b>					
Apples Gala New Crop BC	Kitwanga General Store	3.235	Kg	\$3.03	\$0.936
WF Fruit Medley	Kitwanga General Store	2	1.5 Kg	\$23.98	\$11.99
Grapes Green Seedless	Kitwanga General Store	4.545	Kg	\$29.81	\$6.560
Apples Gala New Crop BC	Kitwanga General Store	9.43	Kg	\$18.26	\$1.936
Bananas	Kitwanga General Store	4.59	Kg	\$10.00	\$2.18
Grapes Red Seedless	Kitwanga General Store	4.16	Kg	\$27.29	\$6.560
Strawberries Premium #1	Kitwanga General Store	2		\$7.96	\$3.98
Pineapples	Kitwanga General Store	2		\$6.96	\$3.48
Red Grapes	Save on Foods	3.355	Kg	\$29.53	\$8.80
Strawberries	Save on Foods	4		\$19.96	\$4.99
Tangerines	Save on Foods	2		\$13.98	\$6.99
Motts Fruitsation	Winners	2		\$29.98	\$14.99
<b>Beverages</b>					
Sun Rype 100PC Wildberry Juice	Kitwanga General Store	2		\$11.96	\$5.98
Sun Rype 100PC UNSWT Orange juice	Kitwanga General Store	2		\$11.96	\$5.98
5-Alive Citrus	Save on Foods	17		\$35.53	\$2.09
Minute Maid Apple Juice	Save on Foods	12		\$25.08	\$2.09
Minute Maid Orange Juice	Save on Foods	17		\$35.53	\$2.09
<b>Condiments</b>					
Parkay Soft Margarine	Kitwanga General Store	3	1.28 Kg	\$10.50	\$3.50
Kraft Peanut Butter	Winners	4		\$47.96	\$11.99
<b>Spices</b>					
Rogers Brown Sugar	Save on Foods	3		\$13.47	\$4.49
<b>Meat</b>					
<b>Frozen</b>					
Eggo Waffles Original	Kitwanga General Store	1	48 Eggo Waffles	\$9.98	\$9.98
Eggo Waffles Blueberry	Kitwanga General Store	3	48 Eggo Waffles	\$29.94	\$9.98