

**Gabrielle Dumé**  
**Laidlaw Scholar Leadership in Action Project Report**  
**Barbados 2024**

## **Introduction**

My name is Gabrielle Dumé, and I am currently entering my fourth year at the University of Toronto, majoring in Biology with a double minor in Immunology and English. This summer, I conducted my Leadership in Action summer with the Heart and Stroke Foundation of Barbados (HSFB). There, I developed new programming for HSFB's health education workshops that targets childhood obesity. The games and activities that I developed will be used in both school and community programming across the country. The following report outlines the project's contextual background, details, my development process, as well as the final product. It will also consider the sustainability of this project.

## **Contextualizing Childhood Obesity in Barbados**

Childhood obesity has become a prevalent issue within the Caribbean. The recognition of childhood obesity as an issue in the Barbados specifically, has increased over the past decade and birthed numerous collaborations between civil society, the private sector, and government. To target this issue head on, Heart and Stroke Foundation of Barbados (HSFB), developed the Childhood Obesity Prevention (COP) programme in 2018. This programme combines both advocacy and education to improve the nutritional options for children in the nation. One of the predominant factors leading to childhood obesity is a high calorific diet.

From 2022-2023, I worked with a team of researchers from the Reach Alliance that investigated how civil society, government, education collaborated to improve the health of the Barbadian population. One of our key findings was the effectiveness of the gamification of health promotion activities. This summer, I decided to join the Heart and Stroke Foundation of Barbados to help redesign their workshop programming, in order to launch a fresh format for the upcoming school year.

The goal of my Leadership-in-action project was threefold: (1) to explore the effectiveness of gamified programming, (2) to develop a database of gamified programming that will be used in HSFB's promotional activities the schools across the nation, and, (3) to disseminate the actionable insights that came from my research team's case study findings.

This report will document my findings, the effectiveness of the programming, and the types of programming developed. It will also explore my reflections of the leadership skills I have strengthened through this experience.

## Phase One: Research

While these studies steered me on the right track into the developmental stage of my project, there were a few caveats I had to keep in mind for my own games. As many of those working in not-for-profit organizations understand, HSFB works on a strict budget. I had to ensure that my games were affordable enough to be replicated in schools all across the country. In addition, while a number of gamification programs involve using a digital platform, my games would not be a video-game. My games also had to be able to be played within a 10 minute timeframe as the Cool School Tours (CSTs) often lasted 30 minute to 1 hour. I decided not to view these challenges as limitations, rather, I chose to use them as a platform to develop games that maximized sustainability in communities with low resources.

Prior to beginning my development of new games for the workshops, I wanted to explore the academic literature about the evidence behind using games for health advocacy purposes, especially within Latin America and the Caribbean. One of the most relevant studies was conducted in Chile (Peña et al. 2021). As of this date, it has been most influential research published in Latin America regarding the gamification of education specific to reducing the rates of childhood obesity. Overall, they found that incentivizing children through challenges and activities was an effective method to decrease BMI and blood pressure. This was encouraging to me, as it proved that turning education into engaging activities, such as gamification, can work in the health sector. A systematic review by Alghamdi (2023) also served as a compass, as the review derived the key aspects of gamification in non-communicable disease advocacy efforts. Features such as musical backgrounds, bright and attractive characters had positive results on engaging children in complex concepts.

My research phase did not only consist of a review of the academic literature, but it also consisted of attending workshops, attending weekly meetings, scouring the internet for different types of children's games. My main goal was to ensure that I understood the cultural intricacies of creating health education material for Barbadians. Cultural considerations included incorporating local foods, sport-competitive culture into the developmental process. It also included working closely with local advocates to ensure that I was capturing their perspectives. I also aimed to ensure that the different age groups were able to be targeted appropriately.

## Phase Two: Game Development

After spending two weeks conducting research, and presenting my initial review to my HSFB team, I began to process of actually developing my game database. My process organically took place in three stages: Brainstorming, Filtration, Fine-tuning

Creative brainstorming: I allowed myself to think creatively and to not be hindered by current limitations in order to gather potential ideas. Through this process, I realized that creating space for creative exploration is essential to develop the best product. It also allowed me to take advantage of my past experiences working with children as a camp counsellor, to event planning as in my current role as a community advisor, to my role as a Sunday school teacher. Here I was able to realize that my perspective was unique, my ideas had value, and that I was capable of creating impact.

HSFB was essential allowing me to have time to develop ambitious ideas, where I would then present my ideas back to the team to discuss practical limitations and contexts. Through numerous meetings, we were able to fine-tune my ideas and develop games that would be feasible. The following questions served as a guide for this stage:

- How much preparation will this game need?
- Can this feasibly be done in a school setting with minimal resources?
- Can this idea be transferred to the workshop team in a way that they can understand?
- Do I have enough time to fully complete what I intend to do in my mind? Will this idea require high cost for materials?

I always returned to my goal: high impact, minimal cost. This allowed me to filter my ideas to the ones that were feasible, timely, cost-effective, without detracting from the quality of them. It was key to prioritize quality over quantity.

One note about my game development process is that it was not linear. Oftentimes would come up with another game or another idea, and had to go back through the same process. It also made me realize that I am not a linear thinker and I can maximize my impact by allowing myself to go through different processes.

### **The Finalized Games:**

The games were divided into three main sections - younger primary students (6-9), older primary students (10-12), secondary students (13-18). The primary students were of greater focus because those were the demographics that were predominantly used in the workshops.

My proposed restructure of the workshops were in the following format:

1. Icebreaker
2. Lesson
3. Game reinforcer
4. Consolidation and Conclusion
5. Evaluation

This restructure allowed for the greater engagement with the children. The icebreaker that I commonly used for the primary students was a repeat-after-me silly song. This song, while had no content value, I found to be essential to allow students to loosen up, as well as to be ready to listen actively to the remaining of the workshop.

The lessons would be taken from the original workshop's material. Since the content of the workshops were decided upon by key health and advocacy experts in the country, it was not necessary to make edits. Instead of running the entirety of the 30 minute presentation however, I would follow nutritional information with a game immediately afterwards. This would test the children's knowledge to create strong connections between the lesson and day-to-day life.

Below are examples of games developed bring higher:



Major food groups paired with I-spy activity for ages 6-9



“This or That”: An activity where students would have to align themselves with the healthier food option. Once they decided, they would have to describe way they moved to that side. For younger kids, adding an silly methods of movement such as a “crab walk” can increase the engagement.



“Chef it up” activity: After seeing an example of a healthy proportioned plate, they had to race each other to create the healthiest plate they could. The challenge was that there was a limited supply of nutritious ingredients and had to be wise for assembling their plate.

### Phase Three: Consolidation and Testing

After fine-tuning the games, I was able to work with children from the Yute-Gym, an HSFb program that aims to improve the health and fitness of children that fulfill the criteria of overweight or obese or susceptible to other non-communicable diseases.

Here, I observed the children’s levels of engagement their level of conceptual understanding. I also gathered their opinions and input in order to determine which games were their favourite, which games weren’t their favourite and why. For example, one of the participants explained that they felt that the programming was too simple, which we later understood was due to them being one of the oldest students in the focus group. In the older focus groups (13-18), some students felt that the information that was asked trivia style was too complicated, and so we had to reconsider how to state the nutritional information in a simpler manner. The focus groups were an essential aspect for the project and helped me to understand the potential successes and drawbacks of my proposed games.



Running an ice-breaker in a mock-workshop

### **Disseminating Research:**

One of my major missions was to circle back to my team's case study findings regarding how the different sectors of society work together for their mission of reducing the high rates of noncommunicable diseases, starting at childhood obesity.

With the help of my supervisor, I was able to speak to the **stakeholders**, including government, doctors, professors, advocates, the Healthy Caribbean Coalition, PAHO and HSF. Many of these stakeholders were interviewed in the my Summer I research, and others that had a vested interest in this mission.

After translating the case study into a half-hour presentation format, I was able to simplify the findings to experts that most likely would not have had the time to read the entire 23-page case study. Throughout knowledge dissemination, I was concerned with ensuring that I would properly reflect the results of our study, my research team, and the organizations I represented. This includes the Reach Alliance, the Laidlaw foundation, the University of Toronto, and even Canada.

Early on in the research project, my research team had decided that our mission was to "Do our topic justice" this meant that ensuring that the quality of our report was representative of not only the hard work, but also that we respected the work of those that are working on this topic everyday, on the lives that are meant to be affected.

The dissemination process proved to be successful through the comments preceding the presentation. **The stakeholders that I presented to were appreciative of the research that was conducted. In addition, they stated that they would implement many of the actionable insights from our report.**

### **Sustainability**

Now that my time at the Heart and Stroke Foundation of Barbados has been completed, I now look to the future and am invested the sustainability of the project. Firstly, the project was heavily influenced by the United Nations Sustainable Development Goals (SDGs).

SDG 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture. Specifically, target 2.2 that aims to end all forms of malnutrition. Childhood obesity is often caused by malnutrition and leads to nutritional deficiencies within a high calorific diet.

SDG 3: Good Health and Wellbeing. In particular, sub target 3.4 that outlines the goal to reduce premature mortality due to noncommunicable diseases (NCDs) through prevention, treatment and promotion of mental health and wellbeing by 2030.

In consideration of these SDGs, In collaboration with HSF, I have proposed the following considerations to the sustainable impact of this project:

1. Current and future youth advocates should be able to run the workshops independently of my support, are able to understand how to use and manage the new database. They should also be able to have the expand and edit the database to flow with the demands of the children. I hope to keep in touch with HSFB, to see how the programming evolves over time.
2. The children's engagement within the workshops should increase with the additions of the games. If they do not, it will be important to consider the reasons that may be hindering their full engagement.
3. The children are able to use the games to make lifestyle changes, or to think more critically about the foods in their environment beyond the hour-long workshop.

My work in redesigning their health advocacy workshops will be implemented beginning this September. Overall, this project used the gamification strategy to redesigned workshop programming for HSFB to use in health workshops. These games capitalized on techniques used in digital formats, such as bright colours, music, and high levels of engagement. As a leader, I have been able to strengthen my creativity, collaboration, and communication skills. I look forward to remaining in close contact with my organization to observe how the new format will work in the school setting. I also look forward to knowledge translation events that highlight the importance of my work in Barbados, and the value of the Laidlaw Scholar experience.

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