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CNM Water in the Desert Project

Service Learning Report

Introduction

Here in the American Southwest, we continue to deplete our freshwater resources much faster than we're able to replenish them. In his film *The American Southwest: Are We Running Dry*, Jim Thebaut explains how the Colorado River and local aqueducts are no longer reliable resources—considering how quickly the population and demand for water is rising in these areas (2008). It seems preposterous that we haven't already taken stricter action—such as enforcing water consumption limits in our southwestern states. It is imperative that we develop a maintainable water consumption method that will secure our ability to live here in the southwest for generations to come. While some engineers and biologists look to the conversion of salt water to fresh water as a possible alternative, conservation and preservation continue to be more viable, more economical, and more sustainable methods. Change must come from many levels—from the federal government to the state governments, and even at county and city levels. We all need water to survive—and we will all be affected should freshwater levels drop too low.

I commit to contribute to solutions to water resource issues at CNM. As a student, I recognize the importance of education—for it is only in knowing that a problem exists that we are able to put our knowledge together to find its solution. I'm sure many of my classmates and their families are aware that our freshwater supplies are dwindling, but I don't think they realize how imminent a water shortage is and how quickly this shortage is coming. It always feels like it's a problem that will happen much later in the future, but the reality is our water problems are already evident now. I vow to spread the word and continue to emphasize the importance of water conservation and preservation here at CNM. Through this serving learning experience, I hope to bring a more positive impact to water conservation in the Southwest, even if it is just a minor one. I would rather contribute a little than not contribute at all.

Reduced bottled water consumption is an important target behavior at CNM campus because it is a non-divisible, end-state behavior that addresses the issues of impact, probability, and penetration levels.

This target behavior will provide a huge impact to the environment. According to Alissa Scheller of the Huffington Post, most of the water bottled in California is drawn from drought-stricken areas (2015). It seems counter-intuitive to take water from exceptionally dry areas and export such an important resource out of the local area. By reducing bottled water consumption, CNM students contribute to keeping water in California where it's needed. By keeping bottled water consumption low, students will also decrease the amount of plastic products that make their way into the oceans. In his film 'Plastic Shores,' Edward Scott-Clarke reveals that an estimated six tons of plastic enter the oceans every year, adversely affecting marine life and the ecosystem (2012).

This target behavior also has high probability levels. Since there are water refill stations in most CNM buildings, reducing bottled water consumption is feasible, convenient, and economical for students on campus. If a student were to purchase a bottle of water for \$1.00 per school day, using the hydration stations on campus could save approximately \$20.00 per month.

Also, since this target behavior is openly observable, penetration levels are low. We can observe students walking into the CNM campus with bottled water. We can also observe how many students are buying bottled water from the student store. Doug McKenzie-Mohr, Ph.D. emphasizes that since survey answers are often inflated, observable behaviors are more representative of actual changes than those which cannot be openly observed (2010).

One possible barrier to the target behavior of reduced bottled water consumption is spreading the information to the target audience. Is there a cost-efficient way to reach the target audience? It is unlikely to see a change in behavior if the target audience does not know that the current behavior is flawed or needs changing. Because we want to promote a certain behavior, we have to advertise the change we desire. Advertisements in the form of posters and signs are often costly and are not always effective at getting students' attention. Currently, social media would be cost-efficient, but students are not always willing to link to institutions such

as schools through social media; they usually reserve social media for friends, family, and their personal interests. Research has to be conducted to determine the most effective way to spread the importance of reduced bottled water consumption.

Another barrier is that current behavior is likely a habit. For example, a student might be used to grabbing a water bottle at home when heading for class. Students might not be used to grabbing an empty reusable container to fill on campus using the hydration station.

One possible benefit of the target behavior is environmental preservation. By reducing bottled water consumption, students contribute to cleaner oceans and water preservation. By using hydration stations, students will be using water from local sources instead of pulling water from faraway locations. Students will also decrease the amount of plastics in the oceans which are often eaten by marine animals and birds. However, more research must be done by scanning literature, taking surveys, and observing student behaviors to properly identify the barriers and benefits of the target behavior.

Research

On Wednesday, October 12, 2016, I conducted a survey about hydration stations on two CNM campuses—the Westside campus and the Advanced Technology Center (ATC). Of the 13 students surveyed, 7 were located at the Westside and 6 were located at the ATC. Names, gender, and age were anonymous. No CNM faculty or staff members were available for participation at the time.

7 of the 13 students identified cost (since the resource is free) as the biggest benefit for using a hydration station on campus. 9 of the 13 students identified location (e.g. not enough stations or unsure of location) as the biggest barrier to using a hydration station on campus. I found this data interesting. Our current semester (Fall 2016) has been in session for 7 weeks now, yet I only noticed that day that there was a hydration station directly outside my classroom door (at the MJG building on the Westside campus). Perhaps in my haste to get to class on time, I failed to notice the hydration station. Also, the hallways are usually crowded in the MJG building, so the station could have been concealed during high traffic hours. The

students at the ATC revealed that the hydration station was too far from their classroom.

Based on the results of the survey, I decided to walk through both the Westside and ATC campuses and locate all hydration stations. Since hydration stations provide a free and sustainable service to CNM students, it would benefit them to 1.) be informed of the service and 2.) know where the stations are located.

With that in mind, I decided to create an infographic. I still need to research more information to populate the media, but I've set up a rudimentary layout that I'll work on this coming week. My infographic can be found at:

<https://infogr.am/d6516b15-7cb7-4cc6-ab6e-0020be305452>

I've seen infographics on Facebook, Pinterest, and even on posters. They're eye-catching and easy to read. Infographics are brilliant because they use graphs, statistics, quotes, pictures, and catchphrases to get the reader's attention. If anything, it could at least spread the phrase "hydration station" around and inform students of CNM's commitment to sustainability.

Some websites I'm looking into are: the Food and Drug Administration, the U.S. Environmental Protection Agency, and the NSF, formerly known as the National Sanitation Foundation (2016). These agencies have data on water resources, bottled water standards, and certification programs. I'll be scouring these websites for interesting facts and statistics about water sustainability and how bottled water affects it. I also found an interesting article by Matthew Power titled "Peak Water: Aquifers and Rivers Are Running Dry" (2008). It contains a wealth of information about water resources and how different regions of the world are dealing with drought.

After scanning these websites, it's become apparent that we need to re-evaluate our consumption of bottled water. Plastic bottles are harmful to our environment. I know if more of my fellow students were aware of the risks, they'd become more mindful and stop using bottled water. Hopefully, by informing them of the hydration stations on campus, they'll be more willing to bring and use reusable water bottles instead.

On Wednesday, October 19, 2016, I conducted a second survey regarding hydration stations. This time, the survey was isolated to one campus—the CNM Westside campus. Due to time constraints, I was unable to conduct the second survey at the Advanced Technology Center (ATC).

10 students at CNM Westside agreed to participate. Names, age, and gender were anonymous. No CNM faculty or staff were available for participation at the time. The survey was given at the MJG building in the main student lounge area, directly outside the student café. The nearest hydration station was less than 50 feet from the student lounge, just around the corner. The outreach tool used for the survey can be found here:

<https://infogr.am/d6516b15-7cb7-4cc6-ab6e-0020be305452>

I originally wanted to include a map of CNM Westside indicating the location of each hydration station but I had a difficult time manipulating the graphics (for example: showing upstairs and downstairs). Also, the maps I downloaded from the CNM website weren't labeled with room numbers, so I felt like it would be difficult for my audience to comprehend the map.

6 of the 10 participants indicated that the outreach tool was effective at showcasing the hydration stations. 8 of the 10 participants indicated an inclination toward using a hydration station in the future. One participant told me in person (when I collected the survey) that she would like to see a simpler, question-and-answer style infographic. She also indicated that CNM should advertise the hydration stations on its website or on CNM Learn.

This week, I was once again stunned at how few participants knew what a hydration station was or where it was located, seeing as one was just around the corner. Surely, most of them had used the restrooms at least once since the start of the semester. Was it really so difficult to notice the hydration station? It brought to mind the phenomena of change blindness (or inattentional blindness), where we don't notice the gorilla walking across the stage because we're focused on the people passing basketballs around.

So, I took into consideration the constructive comments from the participant and completely revamped my infographic. The biggest change to my infographic

includes more information about the harmful effects of bottled water consumption. I especially want students to realize how they're directly connected to the impact. I also added information from the Albuquerque Bernalillo County Water Utility Authority regarding the quality and favorable taste of our tap water to encourage students to use the hydration stations more (2016). Please view my new infographic here:

<https://infogr.am/41843f12-bcd0-499d-927a-51fbe7394df0>

Since I was unable to put a map of the campus in my infographic, I made sure to highlight that most hydration stations could be found near restrooms and water fountains. This made my message clear and easy to read. Hopefully, it will help others to notice the hydration stations and start using them.

Discussions

During the month of October 2016, I conducted two surveys at CNM. Through these surveys, I was able to pinpoint benefits and barriers to reducing bottled water consumption while encouraging hydration station use. The biggest benefit identified was cost. The biggest barrier identified was the location of hydration stations (e.g., not knowing where they were located or feeling there were not enough stations available on campus).

Using this information, as well as input from one of the survey participants, I created a simple and straightforward infographic. I kept it simple knowing how hectic the life of a college student can be. I also wanted the message easily understood. There are only ten key points on the infographic. The first five points address the behavior that I'm trying to encourage (using hydration stations). The last five points address the behavior I'm trying to discourage (bottled water consumption). The infographic can be viewed here:

<https://infogr.am/41843f12-bcd0-499d-927a-51fbe7394df0>

On a scale of 0 to 5 (0 = no confidence, 5 = highest confidence), I'd rate my confidence in my outreach tool at a level 4. I deducted a point because I still wish I could've included maps of the Westside and Advanced Technology Center campuses with clear markings of all hydration station locations. Since my infographic is all words, I'm worried that visual learners might prefer a map instead. Other than that, I

think the outreach tool I provided is excellent! It's concise and targets the encouraged behavior and discouraged behavior using information gathered from the surveys.

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