

SIGNATURE HONORS PROJECT - HEALTHY PALS

by

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Abstract

Healthy Pals was a research-based project that focused on implementing an educational intervention to elementary-aged students in Pitt County. Our research focused on teaching 3rd-5th grade students about nutrition through interactive lessons that involved healthy snacks. Our 8-week program measured the student's success through pre- and post-tests. The overall goal of our project was to improve the student's overall attitudes toward healthy foods that would lead them to make positive nutritious decisions in the future.

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HNRS 2000 – Downfall of the Dining Hall

In the Summer of 2017, I received the book *Designing Your Life* by Bill Burnett and Dave Evans at Freshman orientation. We were tasked with reading the book and completing the activities prior to our first day of class. I did not realize throughout the summer that what I was reading would not only benefit me for the next two years of working on my project but also the rest of my life. Walking into Brewster on our first day of class, I did not know what to expect; HNRS 2000 just seemed like a mandatory requirement for being in the Honors College. However, HNRS 2000 was much more than that for me.

In the class we were split into groups and used lessons that we read about in *Designing Your Life* over the summer. We used Lean Launchpad and Human Centered Design to try to explore different problems our group wanted to tackle throughout the semester. Our groups were challenged with making mind maps to try to solve different problems that we later used to identify a problem we would be interested in trying to solve within the ECU community. Each group was tasked to devise a wicked problem statement and propose our own solution. My group chose to tackle the problem of the dining hall; specifically, the standards of the dining hall. As new students to ECU, we quickly recognized that the dining halls were not identical to how they were advertised to us at our campus tours and orientation. Through research, we also discovered the importance of students eating well and balancing their diet, especially during a life transition like starting college (Massa, 2012). We wanted to find a way to implement healthier dining options for students living on campus.

From personally eating in the dining halls throughout most of the week, our group believed that we could brainstorm a simple fix to our problem. We had so many solutions that we thought simply proposing them to dining hall management would fix the problem. It was

interesting for us to see that a problem that seemed so simple to us may not be easy to tackle. HNRS 2000 taught us to think of all the aspects and outlooks that others would see. We also conducted a plethora of interviews with students, dining hall employees, and dining hall management. For our problem of the dining hall, we never considered how much approval we needed before we could actually make a change. Although we had interviews to support the demand for change in the dining hall, it was difficult for us to find a plan that would be effective and feasible. By the end of the semester, we were left with a game plan of what we wanted to accomplish. We presented our problem and listened to other groups presentations to ultimately vote for which projects we thought should continue onto the next semester. Unfortunately, our project was not voted to continue onto the next semester and our project ended in the Fall of 2017.

HNRS 3000 – Speedy Dining

In HNRS 3000, we were presented the problems that succeeded through to the next semester. We were then able to choose our top three groups that we would be interested in joining to tackle their problem. This also allowed those group members to continue with their project or switch to a new group. Once we were assigned our new groups, we started having to learn a whole new group dynamic. Our new groups were fairly large, making it difficult for us to always find meeting times and tasks for everyone to do. My new group was Speedy Dining and our goal was to try to integrate a to-go option into the dining hall to allow students easier access to food throughout their busy schedules. Speedy Dining was a great idea that many of us believed would easily be integrated by the end of the semester. However, we discovered that even though we had a great idea and concept, the funding and approval for actually integrating Speedy Dining would be difficult.

We definitely received a sense from the beginning that the dining hall management was not very open to working with us. We also had trouble conducting weekly interviews that were actually beneficial to our project; interviewing actual management figures versus interviewing students. Early on we knew that there was a desire for Speedy Dining, so student interviews became less helpful as we progressed throughout the semester. However, it was difficult for us to find ways to actually integrate Speedy Dining since many schools who had a to-go option had a completely different meal plan in place. It was also difficult for our group to find sustainable to-go containers that would not be costly to the school or students.

I discovered a popular app that was being introduced to colleges across the United States called *Tapingo*. *Tapingo* allowed students an easy and accessible way to order food ahead of time for pickup or delivery from restaurants around their campus (*Tapingo*). The company was also already partnered with Aramark which I thought would be an easy transition from ECU. I was in contact with a representative from *Tapingo* and discussed the process of bringing their service to our campus. However, after discussing the idea with management, we discovered that ECU was already planning on a similar idea with the *GET* app instead.

The second semester we depended on literature and learned the importance of backing up our problem with actual research on why there should be change. We also were required to do weekly presentations for our peers and staff to receive relentlessly direct feedback on how we should change our project. This was helpful in developing thick skin and knowing that some harsh criticism is needed and can actually be helpful. Overall, Speedy Dining ended up pivoting and trying to make our problem smaller by trying to make the dining hall experience better for students. This way, our group could provide the dining hall with some suggestions that would be simple but improve students' attitudes and perceptions of the dining hall overall. By the end of

the semester, we prepared a short video to encompass our journey as a group over the semester. As our final, everyone presented their short video to the class and revealed whether or not their projects would be continuing.

HNRS 4500 – Joining Healthy Pals

By the end of the semester, some of the group members, including myself, were planning on continuing with Speedy Dining throughout our sophomore year. However, once the Fall semester started, people's schedules were too conflicted for us to realistically think we could continue. Instead, I joined the Healthy Pals group to continue my Senior Honors Project.

Healthy Pals is a group that wanted to help improve children's nutrition education in the Pitt County Community. Joining Healthy Pals as their Head of Curriculum was slightly difficult for me since I was new to the group. Not only did I not know any of their past contacts or progress, but my role was to create the curriculum for the entire project. We started the Fall semester by meeting weekly and attending Pirate Pals on Fridays at the 3rd Street Academy. Our Vice President, Ross Judd, already regularly volunteered for Pirate Pals and had established a relationship with the school. We tried to create lessons for each week that would integrate nutrition and a healthy snack for the kids. However, we were attending an after-school program designed at an all-boys school and the students simply wanted to play. It was difficult to actually teach them nutrition when they were antsy to run around and not learn anymore. As a group, we came to the conclusion that although it was beneficial to volunteer with Pirate Pals, our project would benefit more by finding somewhere else to integrate our curriculum.

Throughout these weeks, I was also doing literature research to create a curriculum for Healthy Pals. Our group really wanted to base it off of FoodMASTER, which "is a compilation of hands-on and virtual programs that use food to teach math and science skills"

(FoodMASTER). I later concluded that since FoodMASTER is math- and science-based and sometimes requires a lab setting, it would not be the best for our group with low funding and limited availability. Although our current curriculum includes FoodMASTER inspired activities, we had to get creative while finding lessons that kids would enjoy and actually retain. Through our literature review, we learned that interactive lessons would be the most effective for elementary-aged students (Hughes & Kwok, January 2006). This became a major focus for me while designing our curriculum. I wanted to make sure that each lesson involved every student's participation and that we had the time and resources to allow each person to contribute to the lessons. I found the integration of games that involved nutrition and healthy food to be one of the best ideas to base our lesson plans off of. We also conducted research on which age group we wanted to use in our study. We found an article that discussed the success of a vegetable-focused nutritional intervention that was conducted on 4th graders (Wall, Least, Gromis, & Lohse, January 2012). This inspired us to have a similar focus, but we decided that expanding our ages to 3rd-5th graders would be beneficial due to the limited number of students we had access to. We also wanted to find the best possible way to not only teach the students about nutrition but also have their perspectives change in the long run. We found that it is "critical that students' sense that school content is interesting and important to learn" (Pogrow, February 2009). The article discusses how this has a bigger impact on elementary-aged kids than simply telling them that "you will use this when you become an adult" (Pogrow, February 2009). This emphasized to all of our group members that our lessons would only be effective if we had positive attitudes and made sure the kids were listening to us while still having fun.

We reached out to the Boys and Girls Club and proposed our project to Julie Cary who then assigned us to a specific location that we would be able to integrate Healthy Pals into. We

also started the creation of our IRB. We originally thought the IRB was required for any kind of university research. We later found out that the IRB was only necessary if we wanted our research to be published. The IRB was one of the most challenging parts of our project in my opinion. None of us had any experience with the IRB standards and regulations, and the time required writing the IRB and waiting for approval seemed more like a setback for our group as a whole. We left the Fall semester with hopes of submitting the IRB over Christmas Break to hopefully start the integration of Healthy Pals for the next semester.

HNRS 4550 – Joining the Grady White Boys and Girls Club

Coming back from Christmas break, we knew that it was time to get our project in action. Julie Cary had assigned us to the Grady White Boys and Girls Club to implement our curriculum. However, the IRB was not submitted yet, making us unable to start our research. The first few weeks of the semester were spent helping Madeline Rector write the IRB so that we could submit it and hopefully start implementing by Spring Break. However, the IRB seemed to be a huge obstacle for our group due to our lack of experience and knowledge of the requirements. I, personally, wrote a paragraph for the IRB about the curriculum that I helped create and the weekly necessities each lesson would need. Our group, as a whole, frequently researched literature to support our justifications on why we wanted to implement interactive lessons to elementary-aged students. It was difficult for me to have to sit back and wait for the IRB approval and some weeks felt like we were not doing anything.

Once the IRB was submitted, we were left waiting for approval. In the meantime, we contacted the Grady White Boys and Girls Club to update them about our current setbacks and to ensure that we were still interested in working with them in the future. Our first IRB submission was sent back to be revised, which we expected. However, Spring Break passed, and we were

still left with no progress except more editing of the IRB. Due to everyone's efforts and work into the IRB, majority of the group did not want to move on without it. We came to the conclusion that with the lack of time and IRB, Healthy Pals would realistically probably not be implemented until the following semester.

However, we did not want to sit around the rest of the semester without making some impact to our community. Instead, we were able to coordinate volunteering at the Grady White Boys and Girls Club for a program called Healthy Habits. Healthy Habits was a pre-designed program by the Boys and Girls Club that “emphasizes good nutrition, regular physical activity, and improving overall well-being” (*Healthy Habits*). This became not only a way for us to establish a relationship with the Boys and Girls Club kids, but to also learn techniques and strategies of how we would want to implement our curriculum to prepare for a smooth integration. Our group planned to attend two days of the week, Tuesday and Wednesdays. On Tuesdays we would be working with children aged 6-9 and Wednesdays we would be working with children aged 10-12. The lessons were provided to us by the Boys and Girls Club and so were the materials and snacks needed. All of our group members went on our available days for about an hour to conduct a Healthy Habits lesson, feed the kids a nutritious snack, and then sometimes play in the gym afterwards. Although Healthy Habits had a broader focus than what we planned for Healthy Pals, we appreciated the opportunity to be able to spend a few weeks interacting with the kids while we awaited the approval for our IRB.

Aside from our volunteer work, our group also spent the last half of the semester creating our RCAW poster and presenting at two different RCAW events located in the Main Campus Student Center. The creation of our RCAW poster was slightly difficult since we were unable to implement anything this semester. We spent about two weeks meeting in the library to discuss

and create our poster. Once we submitted our final poster to be printed, our group was left to prepare for our upcoming presentations. The next week, we met to create a page length summary of our project for each member to look over before our presentations. Presenting at both RCAW presentations was not difficult since we were talking about a project that we have worked on for the whole year. I answered any general questions and any specific questions about our curriculum and received helpful feedback to help prepare for the implementation that would take place next semester.

Implementation at the Grady White Boys and Girls Club

Starting a new school year was slightly difficult for our group. Although we received approval for our IRB, a few group members decided to not continue on with the implementation of our curriculum. However, there were still some members who were eager to complete our research. Our group now consisted of Morgan Agner, Sydney E. Johnson, Camille Whitlock, and me. It was difficult to recontact the Grady White Boys and Girls Club and establish a schedule for our group to come in each week to complete our research. However, we found that Thursdays worked the best for our group and for the Grady White Boys and Girls Club. The next step was to randomly select our participants for our research. The Boys and Girls Club was very helpful in trying to find participants that would be available for our entire 8-week long curriculum. We tried to plan our implementation around our breaks and the students breaks to have the same participants present each week. We had to ensure that each participant received and completed a consent form before our pre-test date which we decided on October 3, 2019. We had 13 participants complete our pre-test.

Our pre-test consisted of notecards with pictures of different foods. The students were given a worksheet with a word bank provided and were instructed to write the different foods in

three different categories: Go, Slow, and Woah. The “Go” category was for foods that were the healthiest and could be eaten frequently. The “Slow” category was for foods that were healthy but should be eaten in moderation. The “Woah” category was for foods that were not the healthiest but may be eaten on occasion as a treat. The students were not given a time limit to complete the pre-test and we collected each worksheet once they were finished. Sydney E. Johnson collected the data and entered into an excel sheet the student’s pre-test scores. During our first week conducting the pre-test, we noticed that all the participants that we were given were all female which we knew would allow some error for our results.

We went grocery shopping each week for each lesson. We not only bought the students healthy snacks to make, but we also frequently brought small prizes and toys to allow us to play games and award the winners prizes. The 6-week curriculum consisted of activities like creating a face out of fruit, making your own granola, watermelon eating contests, etc. Each participant seemed to be engaging in each activity and we found that they really appreciated us coming each week. However, we noticed as the weeks went on that some participants would be missing, some participants would bring a friend, and some participants would leave early. We knew that this would cause significant complications for us when evaluating the pre- and post-tests but decided to continue implementing anyway. On the 8th week, we conducted the post-test with the girls present in the same manner as the pre-test. All the girls were seated in a room with us and we allowed them as much time as needed to complete their worksheet. Once we collected all of the worksheets, we were left with evaluating our research results.

Our Research Results

Out of our 13 original participants, we unfortunately only had 6 participants complete both the pre- and post-test. We only evaluated the results on those 6 participants to try and

eliminate as much error as possible. The average pre-test score was 5.2 out of 12 and the average post-test score was 6.2 out of 12; 4 of the 6 participants improved on their score, 1 participant decreased on their score, and 1 participant's score remained the same. From the 4 participants who improved, 3 of them attended 3+ lessons. The participant whose score declined attended 4 out of the 6 lessons but was frequently not actively participating and distracted. Our study experienced limitations due to the lack of consistent participants each week that was unforeseen in the planning of our research. We would not consider our study significant in researching a nutritional educational intervention to elementary-aged kids.

In conclusion, Healthy Pals was not as effective as we had hoped it would be. We experienced many obstacles along the year and a half we spent on our project and could only find so many solutions. I have learned many lessons from conducting this research, working in multiple different groups, conducting many literature reviews, and taking all of the different HNRS courses at ECU. Overall, this experience has taught me many lessons that I will use within my future studies, career, and life.

Appendix A – UMCIRB 18-002485

[https://epirate.ecu.edu/App/sd/ResourceAdministration/Project/ProjectEditor?Project=com.webridge.entity.Entity\[OID\[2298091EF66F13428678C423A777C2FF\]\]&Mode=smartform&WizardPageOID=com.webridge.entity.Entity\[OID\[578C6B3AEE875B44AD0294FBE7F0A48F\]\]](https://epirate.ecu.edu/App/sd/ResourceAdministration/Project/ProjectEditor?Project=com.webridge.entity.Entity[OID[2298091EF66F13428678C423A777C2FF]]&Mode=smartform&WizardPageOID=com.webridge.entity.Entity[OID[578C6B3AEE875B44AD0294FBE7F0A48F]])

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