Lab 1: Recipe Modification Reflection

Doing the first lab of the semester, it was a learning experience, and I learned that less is better. This lab was about taking a macaroni and cheese recipe and alter it to a specific client needs. I had a client that need a CHO controlled and increased fiber choice and I set out to make major changes to this recipe, which with the feedback I received I learned that making one or two simple changes that drastically changed the recipe is what is called for rather than making several small changes to effect the recipe but ultimately making it less cost effective and available for the client. The original recipe was very high in CHO but more specifically low in fiber which would not be suited for the client. I have some background in modifying recipes, but my palate is very different for most, so I try to change recipes for my wife, but I think this lab was very helpful. Not only doing the lab, but the feedback from Dr.D, built my foundation for what I think I could use moving forward in the class when changing and analyzing recipes.

The feedback was important but the analysis of what I did was helpful. By addressing the effect of palatability and cost, it helped me understand what I could have done differently to make the appropriate changes to the recipe. To go back to the simple is the best, I combined two pastas and it could have driven up the cost, but I could have just used one type of pasta to achieve the modifications but also keep the cost down. The next question that was raise was the limited change of CHO but when I changed the recipe, I wanted to focus on both CHO and fiber but by creating a recipe with fiber, I was thinking that the serving size would go down because of the satiating effect of the fiber. Although, this was the first of many labs, I think it was good start and gave me a better understanding of how to modify recipes.

Recipe modifications is not just about making the changes to help the client's needs but also to ensure that the recipe maintains sensory qualities that the clients also needs and wants. As we learned in the past about diets, the only diet is the one that is tailored for the client and can be sustainable. The same concept applies here, and while you could make a recipe that checks all the boxes for health reasons, if it doesn't keep or improve the sensory qualities it won't have any impact because it won't be consumed. So, lab 1 help teach me that recipe modifications are important but something that is also important is having a client centered approach to ensure is both efficacious and enjoyable so the client can be mindful of their needs but also have fun with making the recipe and eating it.

Lab 2: Energy Transfer

For lab 2, it was a different approach for the labs, and it focused on boiling and cooling in various water dispersion. We had to measure temperature changes in a shared document to observe the different effects of salt, sugar, gelatin and cornmeal. I have some background before this program and during of taking data and creating graphs but for this we had to illustrate these changes and summarize it with a presentation of our findings. While lab was to help us better understand the way energy is transfers with different types of solutes, it really helped me understand the practical use of during cooking. For example, I always used salt while cooking pasta, but this lab explains why it is useful for reducing energy consumption. Another example is sugar, and I thought it would just add flavor or texture, but it's crucial for confectionary and to prevent scorching. One challenge we had during this lab was the result section and the ability to create the correct graphs to present in the proper way. We started with line graphs; this was a perfect fit to help explain the relationship, but it didn't work so well in relation with time. Since

doing this lab, I have used plenty of the principles in my own cooking but I always here my coworkers that are chefs by trade talk about the key ingredients but now I know that this could make or break a product,

Lab 3: CHO sweeteners and starches reflection

This lab was very tough to meet the requirements, because there was so much to cover within our 10-minute time frame but we were able to create a great end product with also be able to keep it under the allotted time frame. Dr.D said this was the best explanation she has seen in 10 plus years, and we are glad out work came out the way it did. The actual lab was about the functional role of CHO in baking, and to be more exact replacing white sugar, with other non-nutritive sweeteners. The lab was straight forward but we did have a challenging potion during the visual analysis part. Trying rate these from subjective pictures without having them in front of them was challenging but with all of the other aspects of the data helped us compile the data. The data we had was tenderness rated with the chew count, appearance and the type of spread.

This lab was very relevant because of the public's thoughts on sugar and the curiosity of using non-nutritive sweeteners to wither enhance the flavor or lower the calories. But this lab taught us that there is a balance when replacing sugar and while you enhance the flavor you may lose mouth feel, thickness or the spread without trying too. While I am interested in the long term and acute care, chronic disease is part of that care system, and this lab is a perfect preparation for the clients. While possibly working in diabetic management counseling in the future, these type of alternations to recipes containing sugar could be very helpful to teach and guide the clients on the effects different types of non-nutritive sweeteners could have on the end product.

Lab 4: Fruits and Veggies Reflection

For this lab, I cook a lot of veggies, but I usually steam and then give them a quick air fry or broil to get a crisp. But while doing this lab, I now understand that each type of cooking method can drastically affect your desired outcome in a various of ways. This lab was set out to examine how the different cooking methods and pH environments could influence the pigments, textures and sensory qualities of vegetables. The way you could and what you use to cook in is very important, by boiling or cool then boil, distilled water, milk, vinegar and baking soda and using different cooking methods like microwaves and pressure cooking can improve or worsen the over quality of the veggie. The time and use of a cover also alter the outcome, and this changed how I cook at home, because I usually always use a cover but now, I know there is certain times and veggies to use this method for.

Even though we measured the sensory qualities of the veggies, we always measured the color change of both the veggie and the liquid it was cooked in. Bringing it back to my home cooking, I usually use a trial-and-error method, but this lab helped my better understand the scientific process behind cooking and how pH and heat could work for you or against you. We also worked through this lab and tried to keep it under 10 minutes but will all the information that was needed, we went slightly over the time limit, but another challenge was the scaling system. We had several different subjective data sets to analyze but also try to sift through the visual data with some of the names, methods or liquid missing on the forms but we were able to work through these problems, and we believe we made the correct assumptions. This lab help us reinforce the idea of proper cooking methods, time, type of liquid use and the technique you use when cooking vegetables is very important.

Lab 5: fats

Before I go into the lab itself, I wanted to mention something that I didn't know before this week's lesson and that many people may not know. The concept of the air fryer is just a smaller convection oven that is portable and can be used in most houses. This lab focused on deep frying versus air frying and using different types of oils to cook doughnuts. We analyzed the cooking time, absorption and the temperature to see which variation could produce the best doughnut. While one type of oil is perfect for deep frying, it may not work as well for air frying, and we found this concept by looking at the lab data but also comparing the ranking system of sensory profiles given to the samples. To skip past the results, after we posted this presentation on Padlet, one our classmates brought up a very interesting point about blinding. They asked if the taste testers were blinded because of the possibilities of an olive oil bias or dislike for the other oils. This was a valid point, and this may be why olive oil tested so highly in air frying. The key concept that we learned from the lab is that deep frying typically has a lot more absorption and air frying is the opposite, but we did have some challenges throughout the lab.

One of the challenges we encountered was the rating system again. As I mentioned in the previous lab, trying to understand or rate the subjective data is challenging but this one was slightly different. The terminology used like greasiness was confusing at first. We didn't know if it was our bias towards doughnuts and how we like them, but we never really thought about greasiness in doughnuts, so we rated as we saw fit. Even though this was a challenge, the smoke point was another challenging factor but not for us to understand but how to interpret the data. For some of the results, it directly conflicted with the smoking points and how the product should turn out. Something that was interesting and useful in nutrition was the absorbability of

either product and we were able to identify this by calculating the pre and post drying weight and this could add more calories to the product. The takeaway from this lab is that air frying might be the better option for preserving aroma and have less greasiness if this is the outcome the person wants in their product.

Lab 7: Foam Cakes

You may be asking why I went from lab 5 to lab 7 but this is because in lab 6 it was a discussion post rather than an actual lab like the previous one, so I excluded is from the reflection. This week's lab I went into my least favorite thing, baking. While I didn't have to bake the cake, I learned a lot of principles that could when I choose to bake one day or make any products that include flour. I learned that this cake is one of the simplest but one of the most complicated cakes to make. It relies on egg whites for its structure, volume and tenderness without having any fats, leaveners or egg yolks. During my presentation, I accidently added in that steam was needed for this, but I meant to put cream of tartar. This was a typo that I missed but it is crucial for understanding how to bake this cake. The acid helps to stabilize the whites during its foamy stage. During the lab, they tested several flours and temperatures to cook the cake, but the best way is using cake flour at 350 degrees. The cake I was presented with was deflated and had a dense look which ultimately makes you understand that it didn't have structure. Before, this lab I would have said that it wasn't cooked long enough or too long but now I understand that it could have been from many different factors.

As I said at the beginning, I learned a lot from this lab and how not to cook a foam cake. What went wrong during this lab to get the delated cake could have been over whipping, folding or not following the ingredients or recipe. During the presentation I made the comparison of making a

brick oven pizza versus a conventional pizza because of the air pockets that make the pizza have volume. This helped me and others better understand why following the recipe is crucial. I learned a lot about this lab but one thing I took away was to triple check my presentation before submitting. I made my presentation and then the script just as we did in previous labs but this one error could make someone misinterpret the recipe and the reason how and why the foam cakes turns out how it does.