

Integrative Project 2018-19

THE MINDFUL EATING LUNCH SET



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Introduction-- The Modern Mindless Eating

One daily activity that everyone does is eating. However, even though is it “practiced” routinely, only a few people show enough ceremonial ritual in their eating habits. According to Mindful Eating: Trait and State Mindfulness Predict Healthier Eating Behavior, a report published in Personal and Individual Differences on Dec 3rd, 2017, 68% Americans are eating in a rush without caring what they eat or what they used to eat¹. Many times, people eat their cold sandwiches with their hands while staring at the screen doing projects or answering emails. People started to pay less attention to the process of eating due to their busy schedules. Gradually, this eating habit is adapted into people’s lifestyle later on, even during leisure time — the daily fast-paced urban life disorients people from what and why people eat. At the end of the journal, the researchers suggest that generic mindfulness-based eating habits can benefit a healthy lifestyle.

Therefore, I want to design a product to remind people about eating with mindfulness and reinforce this concept into their lifestyles. By assessing the feasibility, I understand the complexity of developing a sophisticated design to change people’s behavior on eating. I acknowledge it is challenging to deliver a behavior-changing product. It is unlikely that people will drastically shift from eating fast food habits to packing homemade food lifestyles. Therefore, the purpose of this project is to support existing lifestyles. My primary users would have developed a mindful eating lifestyle when at home, but are unable to practice due to the office environment and other factors. I also hope to influence some secondary users. When others see the product in use, they will start to think about mindful eating at least. I will look into social and cultural contexts to better understand the target customers – office workers with busy schedules.

¹ Jordan, Christian H., Wan Wang, Linda Donatoni, and Brian P. Meier. "Mindful Eating: Trait and State Mindfulness Predict Healthier Eating Behavior." *Personality and Individual Differences* 68 (October 2014): 107-11.

Contextual Discussion

Supporting Product for Office Workers

By looking into report providing reliable data on my target users, I develop more understanding of how office workers' schedule and environment setting affect their eating behaviors. A journal of Nutrition Education and Behavior summarizes sociocultural factors influencing eating practices among office workers in urban South Korea². Although the demographic is in South Korea, the results applied to Pan Asian groups and even Westerners. The researchers conducted individual interviews between 12 office workers on their nutritional choices and eating styles. The results demonstrate concerns the office workers raise. Participants often depend on eating outside or eating processed food due to their schedules and competitive working environment. In addition to these social factors, the cultural factors of the company often influence the workers' nutritional choices as well. Given the influence of group harmony, workers often "sacrifice their menu choices while waiting for higher-position workers in a group meal"³. The findings reveal that changing sociocultural norms may be more difficult and time-consuming, but they are essential in promoting healthier eating behaviors among office workers.

² Park, Sohyun, et al. "Sociocultural Factors Influencing Eating Practices Among Office Workers in Urban South Korea." *Journal of Nutrition Education and Behavior*, vol.49, no. (6 June 2017), pp. 466–474., doi:10.101

6/j.jneb.2017.02.005.

³ Ibid.

From Lunchbox to Culture

A lunch box is often associated with children in the States, yet in other society, lunch box has developed into a cultural symbol. It is helpful for me to understand how a product has evolved and taken on such a crucial role that it has become a representation of culture. Ekuan, the author of *The Aesthetics of*



the Japanese Lunchbox, took the lid off a traditional Japanese lunch box and discovered the nation's culture rooted deeply in this red lacquered wooden box⁴.

The Japanese lunch box has a unique and compact design. The small sections, for Ekuan, not only formally resembled long Japanese history residing on a narrow island but also

represent Japanese spiritual belief and social custom. The equally sectioned containers also represent the Japanese animistic aesthetic and humble belief⁵.

We are often unconscious of how an everyday use product silently changes the way we think. The Japanese bento box is a specific example. Its design inspires Japanese industrial design profoundly with "principles of order, portability, and user-friendliness." The book illustrated a scenario of using the delicate lunch box. Understanding the aesthetic of other similar product helps me to achieve a more successful contemporary approach to lunch box design.

A Bowl to Hold All

Fig 1, Traditional Japanese bento box

⁴ Ekuan, Kenji, and David B. Stewart. *The Aesthetics of the Japanese Lunchbox*. Cambridge, MA: MIT Press, 2000.

⁵ Ibid.

To understand more about other factors that influence eating, I start to look into works of Gastrophysicist. Gastrophysics is the study of physics applied to food, cooking and eating. Studies of professor Spence demonstrate that small factors affect people's dining experience when eating the same food⁶. Results vary when people see a different presentation of the food, use a different weight of the cutleries and even eat on a different colored plate. Spence also advocates using a bowl instead of a plate when eating. Before eating a meal, the brain forms certain expectations about how satisfied it will be⁷. A bowl allows more interactions than a plate does. While picking it up, users can feel the weight, smell the aroma when turning it and form a more intimate relationship with the food⁸. People are likely to immerse in the experience more than the rigid experience of cutting on a plate.

Above the Box and Beyond

Fig 2, Chinese tea tray

6 Spence, Prof. Charles.
"Gastrophysics: The Lens of
Psychological and Sensory
Research." *Nutrition* 55-56
(October 2018).
doi:10.1016/j.nut.2018.07.00
8.

7 *ibid.*

8 *ibid.*



A tea tray is used explicitly in the Asian tea ceremony, which is another activity that requires attention and respect. Different from a teapot, a teacup and utensils, a tea tray is treated more like a stationary artifact, but serves an

essential rule in the ceremony. It unifies the tea sets. With the presence of a tray, the cups are no longer scattered on the table but create harmony together. The tray visually creates a vast world and guides the user to contemplate on the experience of drinking tea. This product coincides with my intention to enhance concentration on eating. I would like to utilize the benefit of this cultural artifact to unify my lunchbox set and improve the eating experience in the office.

Methodology

My method follows a linear design process. I conducted a series of research, studied the current lunch box designs in the market, sketched and finalized the prototypes. Within this linear process, I also went through the typical design cycle, which includes many new research and iterations. All the iterations center around the concept of promoting mindful eating in the office setting, and each iteration explores form, function, and integration of the environment. After countless reflection and discussion with my faculty advisors, I have reached to a current design that best combines ceremonial ritual with a commercial product.

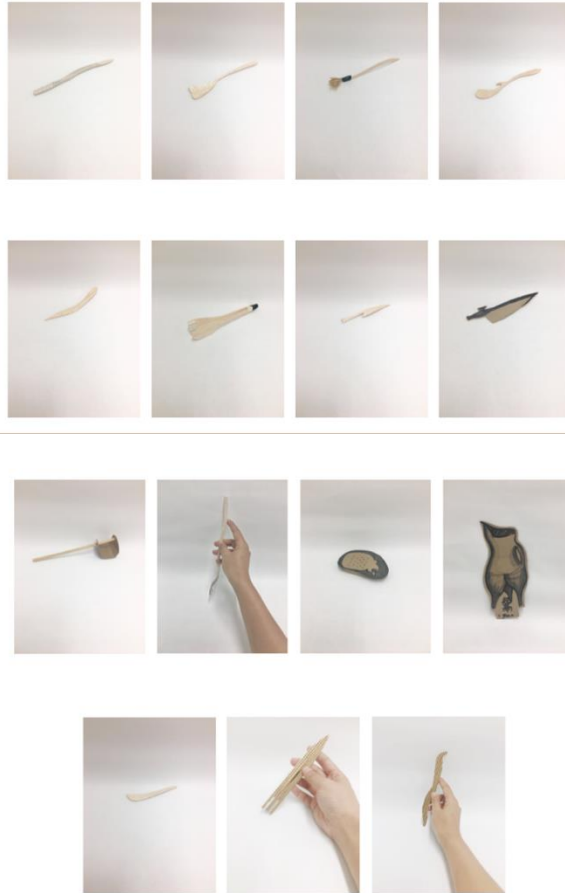
I did not start with direct research. Looking back at my initial proposal, I was on a slightly different track, or a less integrated idea because I had not thought about the problem comprehensively. My initial proposal focused on small products such as utensils:

I want to design a system of lunch set to remind people about eating with mindfulness and reinforce this concept into their lifestyles. The project consists of a set of containers and utensils such as spoon, knife and fork made with metal and dark wood or resin cast that are taken on a Chinese calligraphic aesthetic. This project aims to bring ceremonial dining setting into busy office environment for people who value the dialogues between food and human, and also promotes mindful eating lifestyle into current fast-paced era.

At the time, I want to address the problem from a cultural angle. I attempted to mimic an everyday ceremonial activity—calligraphy—in the eating process. I want to design utensils that look like Chinese calligraphic strokes to revoke mindfulness from the users. Therefore, I started by making

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random objects that were relative to the topic, including various utensils and calligraphic tools.



Soon I realized that utensils solely are not sufficient enough to impact someone's eating, especially to Western users who are not familiar with calligraphy practice at all. Calligraphy may be a sentimental topic to me but is not universal enough to be integrated into a commercial object. Then, I pivoted the project direction and took a break from the cultural aspect. My midterm contract showed a turning point:

I would like to step back from the calligraphy aesthetic, and solely focus on the process of enhancing eating experience outside of home or dining settings.

Fig 3: Prototypes from my 50 objects

Research Finding

I conducted small interviews with people who work or have worked an office job. By asking them the schedule and their eating habits and how often they would pack their lunch, I have the evidence to show the need for a new lunch box design. Among the feedbacks, I noticed a high demand for a better environment than traditional cubicles. The interview results are shown below:

Primary Research



20 interviewees
Age between 22 to 40

Students, Probation Officer,
Event Curator and
Pharmaceutical.



11:30am- 2pm
15-30 mins



85% cooks 5-7 meals a
week

70% pack their own lunch
3-4 times a week

Sandwich bag, plastic or
glass tupperware



Environment - "Anywhere
that is clean and quiet.

Safety of the container is
important

Function - "I don't mind more
aesthetic but form has to
follow function."

Fig 4, my primary research

Iterations

With more focused direction and research findings to guide my design, I designed my first iteration of the lunch box. At first, I only focused on the shape of the container. Therefore, the design did not consider many details, such as locking mechanism and portion. However, I discovered that the PLA filament with 30% of wood infill provided a natural look to the product. I started to look

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into the semantic vocabularies of my project. I want the product to be a beautiful artifact that people carry.



Above: Fig 5, Rhino model of the first iteration

Below: Fig 6, 3D print of the first iteration

My second iteration focused on developing the functionality of the product. Because of the constraints of commercial products, I had to sacrifice some creativity. In the end, the design looked closer to what is already in the market. I had looked into lunch box designs across the world, such as the Indian tiffin. I began to add handle designs and locking mechanism. Yet I still wanted to add more discussion to the design and make the product unique.



After having the idea of incorporating the Chinese tea tray, I revised my problem statement again.

The project consists of a portable set of semi-matte melamine containers and a stationary collapsible wooden tray. The project supports people who wish to eat with mindfulness and enhances this concept into their lifestyles. The lunch set aims to bring ceremonial dining setting into busy office environment for people who value the dialogues between food and human, and also promotes mindful eating lifestyle into current fast-paced era.

Left: Fig 7, Sketch of the second iteration

Right: Fig 8, Rendering of the second iteration

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I drew many sketches about the tray. At first, I wanted to deliberately create inconvenience to the user by presenting a large abstract wooden tray. I was interested in seeing how the users would interact and play with the artifact, which means the plate would have to stay in the office. Later on, after making iterations, I realized it is inconsiderate for the users to purchase a product that will occupy the whole office table. After accessing the office environment more, I transformed the tray into a mat. The users could roll up the mat in the office, and it would take less space.



Above: Fig 9, Brainstorming of the mat

Below: Fig 10, Prototypes of the tray



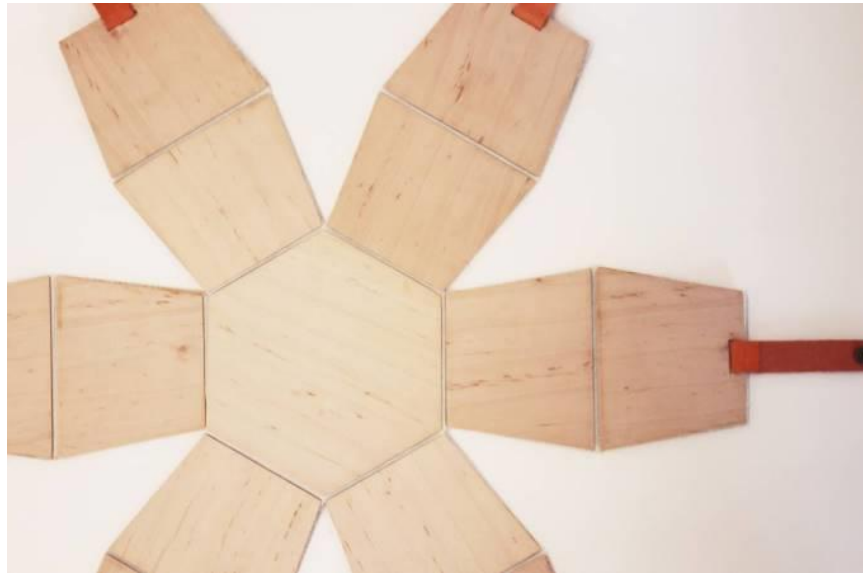
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My last iteration before the final making strove for cohesiveness in the mat and the lunch box. After consulting the guest designer Michael, I came up with the idea of designing the mat into the packaging of the box. By doing so, the mat travels with the user instead of staying in the office. This change would also address the space and packaging problems I encountered earlier.



Above: Fig 11, Rhino model of the final iteration

Below: Fig 12, Final iteration of the mat



Creative Work

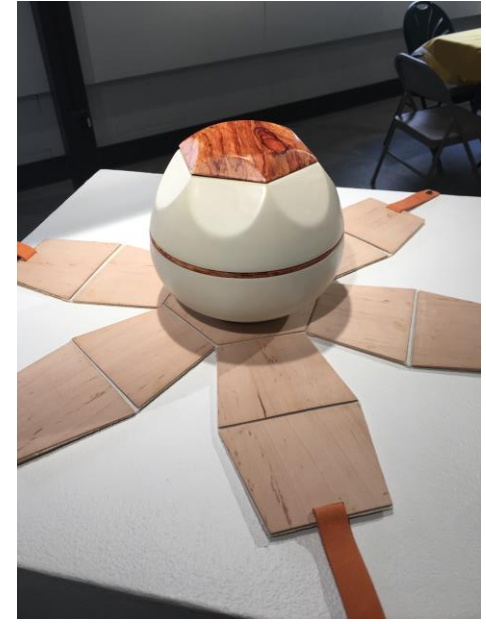
Through many iterations and repetitive cycle of design decision making, I experienced a full design journey, from early-stage research to semantic choice of the product. I designed and made a model that is a successful first version prototype to my standard.

The final prototype is 3d printed. I then applied a coat of primer, and wet sanded the surface with 600 grit sandpaper to achieve the smooth surface. This finishing procedure was repeated six times to make the polished surface of the manufacturing level. I then applied a thin layer of ivory spar paint to mimic the melamine quality. The lids were painted with alcohol ink to mimic wood texture. In reality, the product will be injection molded with melamine and printed with faux wood texture. The faux wood painting not only adds visual elements but also provides a heartiness to the users. The mat is made with 1/16-inch maple wood veneer with fabric joints. I used digital fabrication technique to achieve the exactness of the hexagons. I threaded leather belts with set metal snaps to make the locking mechanism. The orange leather belts add color balance and design details to the final product.

I named the product EXA. Exa derives from the ancient Greek prefix hexá-, meaning six because it equals to 1000⁶. It indicates the hexagonal shape and also the vastness the tea tray inspired mat emphasized. The work is exhibited in Penny W. Stamps School of Art and Design. It is installed on a 47x19x19 pedestal with an informational poster hanging on the back. The pedestal elevates the work to an artifact, which emphasizes the fidelity of the piece. A design work often faces disadvantages in a gallery setting, because the research and process work are often inaccessible to the audiences. The poster

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compensates such disadvantage by highlighting the key features of the product, providing the audiences with the concepts behind my design.



Above: Fig 13, Final prototype of the lunch box

Below: Fig 14, the exhibition

Conclusion

I am satisfied with the final design and delivery. Being inspired by the Chinese tea tray is significant for me. The design aspect is subtle but crucial to make the product unique. Rather than picking one cultural inspiration, I let the design process develop naturally. The linear design process allows me to refine the details multiple times, which is crucial yet not practiced very often at schools. I don't consider the exhibition as an end. To further improve this product, I want to collaborate with engineering and business people as a team. I can discuss the functional requirement more in-depth. I will also have a chance to work on teams with people from different design backgrounds, which better serves the interdisciplinary purpose of the design and allows for more empathy because great minds are coming together.

The research process is also a valuable experience for me. I want to take the prototype to do another round of primary research. It will provide me feedback on the design decision. Sometimes, there is a hierarchy of decision making. For example, I find functionality has more priority over consistency in this design. Therefore, I chose faux wood for the lunch box lid, because it is more durable and dishwasher-safe. However, it also causes inconsistency with the natural wood mat. I wish more interview feedbacks will confirm my design decision based on the user experience. Deciding design priority on user experience is also the area of my graduate study, so this IP project makes a great transition as well.

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