Enhancing Dining Experiences through Emotional Tableware Design

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ABSTRACT

Positive dining experiences can improve both physical and psychological health. Eating with people and eating slowly can facilitate one’s experience and behavior during the process, owing to the unexpected information from their senses and the surrounding environment. Tableware is a very important bridge between people and food. People get food, share food, and serve food while dining. Therefore, the tableware based on emotional design can to a certain extent affect people's dining behavior and dining experience.

This paper firstly introduces the reasons why people are getting hard to get a positive dining experience, and the importance of dining experiences. Then, the author analyzes the factors that influence dining experiences, and explains how emotional tableware design to enhance dining experiences by increasing sensory stimulation, interactions, and emotional resonance of users. Finally, based on the three levels of emotional design theory which are visceral level, behavioral level and reflective level, the author proposes that the integration of sensory stimulation, interaction and narrative can help people enjoy their positive dining experience.

Keywords: Positive dining experience; Emotional design; Tableware
1. Introduction

Positive dining experiences can improve both physical and psychological health. Sitting down and enjoying mealtime with others is one of the ways. It makes for better food choices when families or friends eat together. Especially, it is an excellent opportunity for children to form good eating habits, and it is also a good time for parents to leave behind their personal tasks to relax. What’s more, it reveals that the more often people eat together, the more likely they feel happy and satisfied with their life from a new research at the University of Oxford. In the survey, 76% of the interviewees expressed that dinning together was a better way to bring people closer.\(^1\) Besides, eating slowly and spending more time enjoying a meal is also a way to bring positive dining experience. Eating slowly provides people better hydration, better digestion, and greater satisfaction with meals. Also, it can help people lose or maintain their weight much easier.\(^2\)

However, as people become busy with their work or other priorities, it is harder and harder for them to eat together. For example, nowadays Americans rarely have meals together anymore. It’s estimated that an American on average eats one in five meals in her/his car; one in four Americans eats one fast food meal at least every day; and the majority of American families could have one meal together less than five days per week.\(^3\) Besides, there is more and more people feel that having dinner with their family is a job, but not a time to relax. It is estimated that family meals have decreased by 33% and the time that people spend for one meal decreased from 90 minutes to less than 12 minutes over the last 20 years.\(^4\)

Nowadays, most people pay less attention to the process of eating because of the fast pace of life. They also consider meal is only the needs of nutrition, which leads to a lot of bad eating habits. It points out that one of the main reasons teens have bad eating habits is due to their very busy schedules, which results in a lack of time to prepare healthy food, eat slowly and enjoy the process of eating.\(^5\) These bad eating habits are mainly reflected in mindless eating, eating too quickly, eating alone and so on.\(^6\) Some of these bad eating behaviors are crucial factors for the development of

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1 “Social Eating Connects Communities,” University of OXFORD, 2017.
4 “Importance of the Dinner Table,” Fresh Take Family, 2017.
5 “What Causes Teens to Make Bad Eating Habits?,” Weebly, n.d.
obesity and also other health problems. 

Therefore, enhancing positive dining experience is very important for everyone. It can help people form better dining habits, close their relationship, and gain more benefits both physically and mentally.

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2. Emotional tableware design enhances positive dining experiences

Before discussing how emotional tableware design enhances positive dining experiences, it is necessary to briefly analyze the factors that affect people's dining experiences. How people perceive a meal experience is dependent on many aspects. From the external (objective) point of view, people use all the senses which are sight, hearing, smell, taste and touch to experience a meal. All the senses are aroused at the same moment and interact with each other. A study led by professor Charles Spence, a gastro physicist at Oxford University, has shown that making something looks good actually makes it taste better. Warm color can increase appetite, and changing the thickness of the tableware handle can enhance the eating awareness. Hence, in the process of eating, everything perceived by the senses, environment, food, tableware and so on all affect the dining experiences. From the internal (subjective) point of view, the cognitive picture of the meal in our brain creates certain expectations, according to our earlier memories, knowledge, experiences and contexts. These internal factors are largely related to food choices, food culture, ways of sharing food and interactions with others.

As mentioned in the first section, eating with people and eating slowly make it easier for people to have a positive dining experience. Eating slowly provides people more time to enjoy and focus on the process of eating through the multiple sensory stimuli, and interact with people to increase the enjoyment of eating by sharing food. The communication of food and catering culture arouse people's emotional resonance.

Emotion refers to the psychological activities of people's happiness, anger, sorrow and joy. It is the psychological experiences from people's understanding of the objective things. As everyone has their own special emotions, modern design pays more attention to summarize and refine strong emotions, and design emotional products for different groups of people to meet their spiritual needs. From the perspective of aesthetic perception, emotions begin to take effects. Emotional design is to put emotion into products through the elements of modeling composition, color collocation and surface texture, and arouse users’ emotional resonance during observation to generate good user experiences.

In the process of eating, tableware is a very important bridge between people and food. People need bowls or plates to contain food, forks or chopsticks to transfer food and share food with others. A study in the journal of Flavour

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8 Zellner DA and Loss CR, “It Tastes as Good as It Looks! The Effect of Food Presentation on Liking for the Flavor of Food,” Appetite, 2014.
explored that different utensils provide people different taste sensations, and they also affect the amount of food that people eat\(^\text{12}\). Therefore, tableware can to some extent affect people's dining behaviors and experiences. Tableware produced on the basis of emotional design can enhance users' positive dining experiences by improving their sensory stimulation, interaction mode and emotional resonance during the eating process.

3. How to apply emotional design to tableware for enhancing dining experiences

How to use emotional tableware design to enhance positive dining experiences? Here, three levels of emotional design processing, which are visceral level, behavioral level and reflective level are introduced, and combined with tableware design to explain how they affect people's dining experiences.

3.1 Improve dining experiences with sensory design based on the visceral level

The design in visceral level involves some physiological characteristics of the human beings, such as vision, touch, and hearing, which are related to the most primitive and instinctive physiological response of human\(^\text{13}\). This level brings a pleasant emotional experience to people by acting on their sensory organs, and the emotional experience is the simplest response of the human brain, which conforms to people's cognitive characteristics. Therefore, many products have been developed from the visceral level.

Generally, positive and beautiful things help to inspire people’s positive emotional experience. The positive emotions in visceral level are derived from things that provide security, comfort, and fun, and the understanding of these things is mainly from people’s intuitive stimulation. People get interests in some certain products are mostly because of their intuitive feeling of those items\(^\text{14}\), which is mainly reflected in the form of styling, such as round and smooth shape, bright and saturated color, warm and comfortable tactility, that arouses people’s instinctual emotional pleasure\(^\text{15}\).

Accordingly, the tableware design studied in this paper was considered in the following aspects:

3.1.1 Incorporating food features into the shape of the tableware


\(^{15}\) Yan Shen, “Based on the Behavior of Children Product Design Research” (Jiangnan University, 2010).
Usually, vivid and figurative forms are easier for people to understand and be attracted. Therefore, designers could integrate the existing objects in nature into the design. Taking the tableware designed by Qiyun Deng as an example, his food-based tableware design incorporates the material and color of the food into the shape. It can visually stimulate user’s association with food to a certain extent and enhance the taste sensation.

In Figure 2, there is a set of cutlery designed by Jinhyun Jeon from Design Academy Eindhoven. The purpose of this design is to fulfill the range of senses at the table through sensorial stimulation by cutlery. According to the six sensory elements which are color, volume, weight, temperature, tactility, and form, Jeon got inspiration from the phenomenon of synesthesia and explored the way to enrich eating experience by sensorial tableware design.

3.1.2 Considering the influence of the color and shape of the tableware on the sensory stimulation and user behavior

Some research have shown that various colors and shapes of tableware change people's food behavior and taste.

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17 Jeon, “Tableware as Sensorial Stimuli by Jinhyun Jeon.”
sensation. Visual stimulation can also affect the taste experiences. For example, people think the food in a round plate is sweeter than the one in a more angular plate; people would rate a pinkish strawberry mousse served on a white plate much sweeter, more flavorful, and more enjoyable than on a black one. Meanwhile, the food in a red plate will be more junk food than in other colors plates.

3.2 Improve dining experiences with interactive design based on the behavior level

Designs in behavior level are about utility, and the design that promotes product usability belongs to this level. Here, we need to pay attention to whether the product can help users to complete the task effectively, and also whether its operation is an interesting experience. Products that encourage and entice users to get close and interact with each other are easier to enhance user engagement and get a positive experience.

Figure 3. Cognac Glass from Normann Copenhagen

Designers can break the original shape of tableware and integrate it into living habits so as to enhance the dining experiences by stimulating different interactive ways through modifying the tableware shapes. For example, the “SHAKE CUP” (shown in Figure 3) produced by Normann Copenhagen is in an irregular shape, it ensures not only usability (not to tip over) but also allows people to touch and play with.

19 Normann Copenhagen, “Cognac Glass,” n.d.
Another example is the ABC Plate (in Figure 4) designed by Pekka Harni with an inspiration from building blocks. It includes a set of plates in different geometry shapes which are square, rectangle and polygonal, and three classic colors of black, white and red. In addition to its versatility, the most important thing is that it helps to enhance the interactions between the users and the tableware, and make the dining process more interesting.

3.3 Improve dining experiences with narrative design based on the reflective level

Reflective level of design is related to the meaning of objects, which can be expressed as the presentation of ideas or cultural identity. Designers materialize the "unconscious behavior" of users through observation, so that consumers will naturally have a feeling of "already seen" in the process of using products. This kind of unconscious design advocates the collection of unconscious behaviors that users may not have noticed into design elements, so that these products can directly impress users.

In the process of tableware design, designers should not just focus on the form of tableware, but also need to pay more attention to each of the steps of "eating food". It will give much more meaning to the tableware beyond the diet through the combination of food culture, dining experiences, interactive behavior.

Let the tableware tell people a story and turn the dining experiences into an interesting journey. Tableware is associated with food and users. It gives a rich storyline to the whole process of “eating”. When they are served on the table, scenes which were presented already outlined the story.

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Molecular restaurants have received increasing attention in recent years, one of the most important reasons is that molecular restaurants not only provide customers delicious meals but also innovative and aesthetical dining experiences. Each molecular meal is full of multi-sensory experiences and unforgettable visual art.

Figure 5. The Tableware of Molecular Restaurant 22

Though most of the innovation in molecular restaurants is focused on food itself, the utensil becomes a non-negligible part when presented to consumers. As shown in Figure 5 (left), the layered tableware with a black frosted texture creates a scene of taking food in the mountains. The white tableware (in the middle of Figure 5) is half smooth and half retains the texture of rock, giving a sense of being closer to the original and natural. The tableware in Figure 5 (right) forms a corresponding relationship with the food itself, making the whole meal more novel and interesting.

Figure 6. Japanese Tableware 23

Food can give a story through the design of tableware. Designers usually obtain inspirations from the natural and combine them with food to arouse the emotional resonance of consumers. Similarly, designers can tell a story by combining different culture features. As shown in Figure 6, a micro dry landscape scene is served accompanying with food and tableware from the Japanese landscape culture. Consumers get lots of fun by designing the gardens by themselves while tasting delicious food.
Conclusions

For the most common design products such as tableware, there is no big breakthrough in the design of the basic forms for a long period. Most of the work are about modifying the tableware by changing its shape, or directly adding decorative objects and patterns to make it more beautiful, comfortable, and suitable for the ergonomic purpose. Therefore, the primary feature of tableware is to contain food.

However, tableware is an important bridge between people and food. People eat, share, and serve food through tableware. To improve positive dining experiences through tableware, it is necessary to combine emotional design theory to strengthen these factors that can affect people's eating behavior and experience, which are sensory stimulation, interaction and emotional resonance of users.

In conclusion, designers can incorporate the food features and consider the color and form of tableware to enhance the stimulation of vision, tactility and taste etc.. Also, combining user’s living habits and shape innovation to guide people to create different ways of interaction. Meanwhile, designers can also give people a storytelling dining experiences by combining the cultural characteristics and the natural elements.
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