

## 外国語要旨

学位論文題目 A Study on the Appropriate Food Arrangement in “Ichiju-sansai”

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How to arrange the foods on dishes is an important factor in food appearances and appetite. For good food appearance we must decide the type of dish, amount of foods and how to arrange foods in a dish.

Actually, there are not so many practical information about food arrangement. Food appearance varies appreciably from person to person so, it is difficult to get the same favourable appearance. Therefore, we have to try several ways to get the consensus of the many.

In this study, we aimed to develop methods of arrangement of foods with some additional concrete data for the purpose of using them in cooking practice and food service.

In Chapter 2, literature search on Japanese menu styles and expressions in food arrangement were done. Utilization of tablewares, arrangement of foods and setting the table based on 5 traditional Japanese menu styles “Daikyo-ryouri”, “Honzen-ryouri”, “Shoujin-ryouri”, “Kaiseki”, “Kaiseki-ryouri” were considered. It is suggested that Japanese food arrangement culture affected by cooking methods and identification system in each period of menu styles were developed. In the books written by Japanese cook, there were many expressions about shape and position in food arrangement.

In Chapter 3, combinations of different sizes and shapes of the tableware used in “Ichiju-sansai” ( a Japanese traditional menu style ) were investigated . We examined the different sizes to determine the most favourable size for tableware. Ten combination size patterns of main dish plate, side dish I, and side dish II bowls were determined taking a 1.0 ratio for rice and soup bowls. Seventy undergraduate students evaluated them according to their preferences. Of the ten patterns, the evaluated mean value was highest for the rice and soup bowls to main dish, the ratio was 1:2.5, for rice and soup bowls to side dish I, the ratio was 1:1.5, and for rice and soup bowls to side dish II, the ratio was 1:1.0. The effect of shape with the same basic size on preference was examined using conjoint analysis. Eight different shapes were used and 29 cooking teachers evaluated them. It was found that the favourable shape patterns were the combination of a main dish plate with a vertical to horizontal dimension ratio of 1:1.6 and a side dish

I bowl with a vertical to horizontal dimension ratio of 1:1.

In Chapter 4, we aimed to determine the appropriate way of arranging rice in a bowl. To determine the three-dimensional arrangement of rice in a bowl, we attempted to measure the height of rice in a bowl using a depth sensor defined as “Nakataka-do” in Japanese, which is an index of the particular arrangement of rice in a bowl, where the center is higher than the edge. In addition to this, we defined “Tobidashi-do” also in Japanese as the degree of roughness of the contour of the rice. The weight and shape index of 29 rice samples were done by 21 undergraduate students and 8 cooking teachers using the rice bowl with the width of 11.6cm and the height of 5.1cm. The results of the analyses are as follows : The value of “Tobidashi-do“ of samples prepared by the students was higher than that of the teachers. We could demonstrate the favourable sample of the rice ; the value of “Nakataka-do” was 7.3 , the value of “Tobidashi-do” was 1.30, the width of rice was 10.1cm, the area occupied by rice in a bowl was about 53%.

We proposed a method how to put rice in a bowl based on the high score of “Nakataka-do” and “Tobidashi-do”. At first, the beginners practiced putting the rice in a bowl by their own way, then, they were taught how to do the method with high score. Thirty-three undergraduate and 16 graduate students evaluated them according to their preferences, and the result showed that the evaluated mean value was higher for the arrangement after learning the method.

In Chapter 5, we carried out a questionnaire survey to find out the appropriate wording to express the arrangement of “Chikuzenni” (a Japanese home-style simmered root vegetables ) and demonstrated how to arrange foods on dishes according to the wording.

The result for 64 persons showed that the selected word for expressing favourable arrangement of “Chikuzenni” was “Balance of Color”. By the image analysis of 6 experienced cooking teachers’ arrangements, the good balance of green color was 18%, red color was 16% in the whole arrangement area.

Based on the results, we could demonstrate using number and concrete words to express the favourable condition of food arrangement. There is a high possibility that our methods could be applied in various arrangement of foods which could be used in school education and food services.