

Determining Stock Cube Uses in a Kitchen

A Naturalistic Approach: Behaviors during the Culinary Preparation with Different Ingredients

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Introduction

In France a broth prepared over a long period of time was a key element of traditional cooking [1]. In addition, the soup has been a gastronomic dish since the XVIII century. The word “potage” instead of “soupe” (soup in English) was used to define the delicious soup made for the high society [2]. Around 1850, a chemist called Justus von Leibig (1803-1873), invented a technique to produce a meat extract on a large scale [2]. The use of stock cubes to flavour meals spread from the beginning of their industrial production in 1886, when Carl Heinrich Knorr started its commercialization [2]. Nowadays, stock cubes are commonly used in Europe but also in countries such as South Africa, as they deliver taste and micronutrients without producing major changes in food production or changes in traditional diets [3].

In the present study, we rely on an ethnographic approach reproducing immersion on context of traditional ethnography in order to provide a direct experience and understanding of the users' world for improve the design of the objects [4]. Thus, Salvador *et al.* [5] describe ethnography in the corporate context as "a way of understanding the particulars of daily life in such a way as to increase the success probability of a new product or service or, more appropriately, to reduce the probability of failure specifically due to a lack of understanding of the basic behaviours and frameworks of consumers."

In this research we are interested in learning in details how French consumers use stock cubes for cooking. Between different possible research methodologies, such as surveys, the observation in an experimental kitchen has been selected in this study. The observational measurements allowed taking into account the conscious and unconscious parts of behaviours [6], such as the different ways of using the stock cubes and the quantity used (data not showed).

Methods

Methodology

We used a video recording which permit to capture complexity of real-life. In this sense, the complexity of the behaviours during cooking are coded combining the different options of the software The Observer XT (Noldus).

Participants and situation

11 volunteers (average age of 48 years) habitual users of stock cubes participated in the study. Before starting, an ethical committee approved the study. A consent form for participation and video recording in the experimental kitchen was signed. Each cooking session observed lasted around 1h 30.

Phases and recipes

The study consisted of two main phases depending on the types of recipe. During phase 1, water, rice and stock cubes were available to prepare flavoured rice. During phase 2, water, rice, stock cubes, chicken, onion and sunflower oil were available to prepare fried rice. Ingredients given to conduct the tests were products from the same batch.

Measurement

Three cameras located on the ceiling of the experimental kitchen were used to observe participants during the meal preparation. The record videos were employed to analyse participants' behaviours towards the stock cubes. The Observer XT was employed to code the observed behaviours. The following information was checked: 1) What is the type of manipulation of the stock cubes before use?; 2) What are the ingredients flavoured with the stock cube?.

Results

Observations led us to define various categories in answer to the previous questions. Figure 1 shows the type of manipulations and examples from the users. The main uses are adding the cube without handling and crumbling into the water, other ingredient or a mix of other ingredients. The stock cube was employed to season raw (chicken) or cooked products.

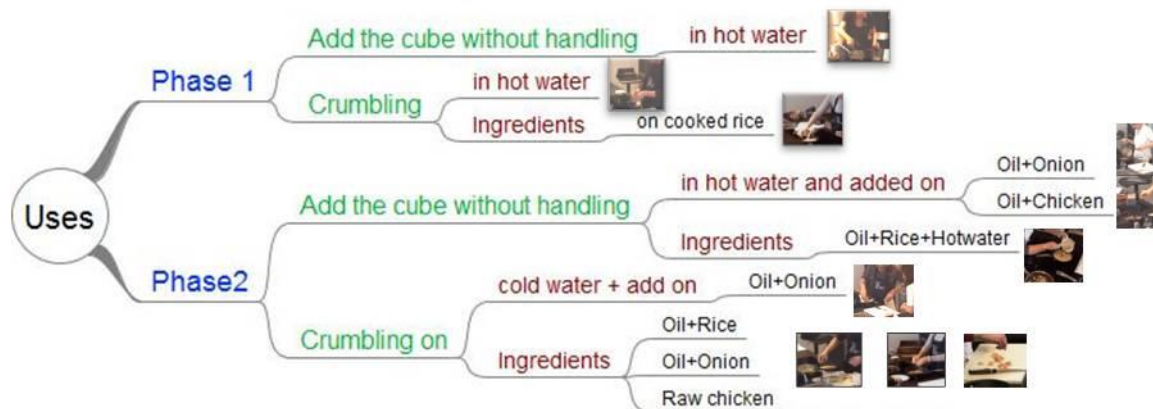


Figure 1. Diagram of uses according to the phase of the study.

Conclusions

In this work, we showed uses of stock cubes in different recipes with in the experimental kitchen. Stock cubes are used differently during the meal preparation for various purposes such as flavouring the broth. It was observed that adding the cube without handling is not the only use possible in meal preparation. Crumbling on ingredients like salt or dissolving the stock cubes in hot water to produce a concentrated sauce are relevant uses not expected before the study. The physico-chemical properties of the stock cubes will make the uses observed in our study easier, to satisfy the consumers' expectancies. This pattern of uses will be considered as the basis to develop a more complex study on the uses regarding traditional meals and ingredients of a region and culture.

The study could have limitations because the participants are not in their own kitchen. However, the experimental kitchen allows us to create standard situations and lower experimental variability by giving participants identical ingredients, recipes and equipment. In addition, this naturalistic setting could be an interesting context to conduct tests of products comparison, consumer knowledge and the assimilation of the innovative products by the potential users of a product.

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