

Aspects of Cooking in Food and Meal Science

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Abstract

Education and research within the interdisciplinary subject food and meal science can be mediated through science, craft and creativity and cooking is a central activity. This paper aims at elucidating some aspects of cooking through the perspectives “Culture and Communication” “Food Science” and “Nutrition and Health”. This was done through a survey among students and teachers. The results stress the importance of an interdisciplinary approach to understand the different aspects of cooking and the prominent view on cooking as a cultural and communicative activity.

Introduction

Food and meals are important for our daily energy needs and intake of nutrients but also for the pleasure of taste, smell and texture^{1,2}. In addition, food and meals are of major importance to our social life, for the joy of eating with family, friends and colleagues. In Sweden, eating habits are changing as exemplified by an increased consumption of precooked foods and more meals consumed outside home. Accordingly, it is important to acquire knowledge of cooking in order to be able to prepare dishes that are delicious and healthy. The only compulsory education is lessons in home and consumer studies³.

Food and meal science is an interdisciplinary subject offered at Kristianstad University (HKR). Approximately 200 students follow courses in this subject every year. At HKR, teaching and research within food and meal science include the perspectives “Culture and Communication” “Food Science” and “Nutrition and Health” and the didactics of the subject⁴. Science, creativity and craft of the kitchen permeate teaching and research, making cooking, as practice and theory, a central phenomenon.

There are however many dimensions to cooking, and a common terminology is lacking in the literature⁵⁻⁸. Cooking has traditionally been seen as a practical activity, for example in one dictionary⁹ cooking is defined as preparing food for eating by applying heat, which exclude all other forms of cooking. Symons¹⁰ argues that the main purpose of cooking as an activity is to share food with others. Duruz¹¹ states that cooking is a “source of pleasure”. Short¹² refers to cooking today as “a heterogeneous mix of the fresh, the raw and the pre-prepared, the new and the traditional, the technological and the manual”.

This study aims to explain cooking through the perspectives “Culture and Communication”, “Food Science” and “Nutrition and Health”. To further look at cooking as a food and meal science phenomena, students and teachers educated at HKR were asked to explain where they learnt to cook and their view on what cooking is.

Material and methods

A survey was distributed to food and meal science students at HKR and former students who were registered as alumni. A total of 120 practising home and consumer study teachers were also asked to participate in the survey. The study included a total of 77 respondents of which 60% were students and 25% practising teachers. The remaining 15% were alumni students or did not state their title.

The questionnaire consisted of three questions, the first being a multiple choice question "Who are you" and the other two worded as follows: "where did you learn to cook?" and "what is cooking?". The material was analysed by an inductive analysis inspired by Patton¹³.

Results and discussion

A majority learn how to cook at home

A majority (70%) stated that they learnt to cook at home. The second most important arena for learning how to cook was through teaching at compulsory school (23% of the respondents). Cooking has historically been a part of a practical and oral culture and cooking skills has been transferred by imitating those who know the craft. When cooking was documented in writing, it was mainly as recipes and cookbooks^{5,14}. One group of the respondents (18%) answered that cookbooks have been a source for them to learn how to cook.

Cooking from the perspective of culture and communication

Cooking is an activity where "head and hand" merge. It must be understood as an expression of several skills as well as emotions and sociocultural belongings. Cooking is a social activity and a cultural expression, as well as a way of communicating with other people, expressed by many of the respondents. Much of the research in the field of cooking as a social and cultural activity has a gender perspective, focusing on cooking as womens' work¹⁵. The more prepared, the higher symbolic value, where a cooked family meal is described as having high symbolic value¹⁶. Therefore, cooking can be understood as an important part of a caring relationship.

- More symbolically, in the context of the family, the preparation and serving of food, while not generally conceptualized as a commodity, may also be regarded as a potent sign of love and duty¹⁶.

Cooking is still described as primarily women's work¹⁷. Belasco¹⁸ argues that even though much food is not prepared "from scratch" today, women still have the overall responsibility for planning, shopping and preparing for the meal.

In the descriptions of cooking and preparing for a meal, women's work is often defined as in many parts "invisible work"¹⁹. However, the definition of cooking as more than just the

actual preparation of the food is important in discussing the complexity of cooking. One respondent also acknowledges this in the following statement:

- Cooking is the totality, everything from planning, preparation, the meal and the work afterwards, but it is also a reflection.

It is possible to show an awareness of preferences in the act of cooking¹⁶. The value of the relations can also be apparent in the food cooked, in the choice of ingredients and in the time spent on the cooking.

Cooking as a social and cultural activity brings people together. Studies have shown that the family meal may be a unique opportunity for the family to actually sit down and talk²⁰. Counihan²¹ clarifies this by the expression: "Eating together is the foundation of the family". The respondents also points out the social dimensions of cooking:

- For me, cooking can also be fellowship/companionship; you cook together the meal for the day, together with people you know. In school and at workplaces, cooking brings people pretty close, which promote respect and acceptance among people (teacher in home and consumer studies).

Through cooking people may learn, understand and appreciate other cultures and food cultures. It may also be a way of creating common memories.

- Cooking connects families and you help each other to cook, you talk and create memories and common values with the help of food. You are being socialised into a food culture and it tells you a lot about who you are as a person. Cooking is so much more than just to cook (gastronomy student).

Food is closely linked to the ego where ideal and reality not always is in accordance. Cooking and meals are also about conflicts of different kinds¹⁷, but still, our survey reflects positive values related to cooking.

A food science perspective on cooking

Food science involves several scientific disciplines. Historically, it concerned mostly industrial food production but during the last 20 years an increased scientific interest has been directed towards commercial and domestic cooking. Cooking from a food science perspective can refer to the practice or skill of preparing food by combining, mixing, and heating raw ingredients as exemplified by these respondents;

- When working with food and raw ingredients in different ways, it may mean anything from baking to preparing breakfast and cooking larger meals.
- Knowledge of the handling and preparation of various ingredients. The ability to compose and vary meals.

Foods are mixtures of different chemical components and cooking aims to influencing qualities such as taste, aroma, texture, color, nutritiousness and shelf life, all manifestations

of chemical properties²². Dramatic transformations can occur in the food during cooking – the transformation in itself being the definition of cooking in the mind of another respondent;

- To me, cooking is simply the moment when preparing any kind of food. It can be as easy as boiling an egg or preparing vinaigrette for a salad. A minimum requirement for an activity to be considered as cooking is that the taste or texture of the food product is changed.

The knowledge of how to produce and prepare traditional foods has existed many thousands of years without any knowledge of biology, chemistry, physics or physiology. As science evolved, the scientific rationale behind traditional food processing and cooking methods has been better understood leading to what has been called a culinary revolution, practiced as molecular gastronomy, science-based cooking or experimental cuisine. This prominent trend was highlighted by one of the first year gastronomy students:

- Cooking, to me, means the possibility to experiment with different ingredients to create something fantastic.

Sensory aspects of foods and meals, highly influenced by cooking, are of great importance. These include perception of appearance, odour, flavour, taste, texture and sound of the food. McGee²² acknowledges the role of sensory perception during cooking by the following statement: “Thoughtful cooking means paying attention to what our senses tell us as we prepare the food, connecting that information with past experiences and with an understanding of what’s happening to the food’s inner substance and adjusting the preparation accordingly”.

Similar references to sensory aspect were made by participants in this survey by the following statements;

- The cooking methods, odour, to watch food, to touch food, food over the boundaries.
- The purpose of cooking is to create taste and texture.

Nutrition and health perspectives of cooking

The knowledge of cooking improve the possibilities to make conscious choices for a healthier diet. However, cooking skillfully is not the only way to a healthier diet. If principles of cooking are known, there are alternatives to the choice of fast food and preprepared meals. Only a few studies have highlighted the relationships between health and cooking skills.

In this study, only five respondents involved aspects of nutrition and health in relation to the question "what is cooking?" The following statements were found among the results:

- Cooking while thinking of good health, economy, environment, togetherness, joy and to constantly learn new things.
- The art of preparing and cooking a meal contains to take account into aesthetics, nutrition, taste, ingredients, for example.

Food and meal science students at HKR study nutrition during their first and second year. Nutrition is also emphasised as a subject within home and consumer studies. The fact that so few have highlighted the nutritional aspects in relation to the concept of cooking was therefore surprising. One explanation might be that teachers and students who have food as their profession or aspiring professionals take for granted that nutrition and health are such an integral part of food preparation that it does not need be mentioned. Another explanation may be that cooking is addressed within both university programmes as well as in elementary school in a different way than used to be before. Today the feeling of solidarity and contextual belonging, pleasure, raw materials, sustainability, and environment are regarded as important factors in the choice of food together with nutritional and health related perspectives. In media, cooking and food has received increased attention during the last years, usually in relation to weekend, luxury and competitions where nutrition and health are of low importance.

Conclusions

Aiming at elucidating the concept of cooking through the perspectives “Culture and Communication”, “Food Science” and “Nutrition and Health”, points both at challenges in the interdisciplinary scope as well as the necessity of emphasizing cooking as a central phenomenon in food and meal science.

Cooking is a subject of increasing interest, within both society and science. The cooking statements from the food and meal science students and teachers show that there is a great interest in food, its ingredients and how to prepare a meal by using different types of cooking processes to create delicious food and meals.

It was surprising to note that the focus of cooking was primarily upon culture and communicational aspects and less on nutrition and health. In the future this should be taken into consideration in the development of the subject food and meal Science at HKR.

References

1. Wendin K, Ekman S, Bülow M, Ekberg O, Johansson D, Rothenberg E, Stading M. Objective and Quantitative Definitions of Modified Food Based on Sensory and Rheological Methodology. *Food and Nutrition Research*, 2010; 54:5135
2. Reinbach H, Hausner H, Wendin K, Bredie W. Adults' acceptance of New Nordic Diet meals. 2010; OPUS-report, Copenhagen University
3. Skolverket. Kursplan för hem- och konsumentkunskap. *Läroplan för grundskolan, förskoleklassen och fritidshemmet*. 2011. Stockholm: Fritzes.
4. Olsson V, Müller-Hansen B, Gerberich J, Olsson J. Culinary arts and Food Sciences: A fresh education at Kristianstad University. *International Conference on Culinary arts and Sciences VII*. 2010; 321-322.
5. Begley A, Gallegos D. What's cooking for dietetics? A review of the literature. *Nutrition & Dietetics*. 2010; 67(1), 26-30.
6. Lyon P, Colquhoun A, Alexander E. Deskillling the domestic kitchen: national tragedy or the making of a modern myth? *Food Service Technology*. 2003 (3), 167-175.

7. Short F. Domestic cooking practices and cooking skills: findings from an English study. *Food Service Technology* .2003; 3(3-4), 177-185.
8. Short F. Domestic cooking skills - what are they? *Journal of HEIA*. 2003; 10(3), 13-22.
9. The American heritage dictionary of the English language. Boston, Mass.: Houghton Mifflin, 1992.
10. Symons M. Cutting up Cultures. *Journal of Historical Sociology*, 2002; 15(4), 431-450.
11. Duruz J. A Nice Baked Dinner...or Two Roast Ducks from Chinatown? Identity grazing. *Continuum*, 2000; 14(3), 289-301.
12. Short F. *Kitchen secrets - the meaning of cooking in everyday life*. Oxford: Berg, 2006
13. Patton M.Q. *Qualitative research & evaluation methods*. (3. ed.) London: SAGE, 2002
14. Bergström N. *Mat i skrift: recept och kultur i kokböcker*. Göteborg: Univ., Institutionen för hushållsvetenskap, 1997
15. Ekström M.P. Fürst E.L. The gendered division of cooking. In Kjærnes, U (red). *Eating patterns. A day in the lives of Nordic People*. SIFO Report, no.7. Statens Institutt for Forbruksforskning. Lysaker, Norge. 2001; 213-233
16. Lupton D. *Food, body and the self*. London: Sage, 1996
17. Anving T. *Måltidens paradoxer. Om klass och kön i vardagens familjepraktiker*. Doctoral dissertation. Lund: Lund University, 2012
18. Belasco W. *Food. The key concepts*. Oxford: Berg, 2008
19. DeValt M. *Feeding the family. The social organization of caring as gendered work*. Chicago: The University of Chicago Press, 1991
20. Holm L. Family meals, In Kjærnes, U (red). *Eating patterns. A day in the lives of Nordic People*. SIFO Report, no.7. Statens Institutt for Forbruksforskning. Lysaker, Norge. 2001; 199-212
21. Counihan C. *Around the tuscan table: Food, family and gender in twentieth-century Florence*. New York: Routledge, 2004
22. McGee H. *On food and cooking: the science and lore of the kitchen*. New York: Scribner, 2004