

Aesthetic judgments and meaning-making during cooking in Home and Consumer Studies

Gita Berg

<https://orcid.org/0000-0003-1955-4591>

gita.berg@ikv.uu.se

Helena Elmståhl

<https://orcid.org/0000-0002-9374-4441>

helena.elmstahl@ikv.uu.se

Ylva Mattsson Sydner

<https://orcid.org/0000-0002-1798-411X>

ylva.mattsson.sydner@ikv.uu.se

Eva Lundqvist

<https://orcid.org/0000-0001-8036-6245>

eva.lundqvist@edu.uu.se

In Swedish home and consumer studies (HCS), cooking forms a part of the core content, and students often experience the results in a sensuous way – by eating the food. Sensuous, or aesthetic, experiences may affect students' meaning-making and thus what is learned within the subject. There is a lack of research concerning the aesthetic aspects of cooking in a learning context; therefore, this study aims to explore HCS students' meaning-making by focusing on aesthetic judgments during formalized cooking practices. The research question is, in what ways do students use aesthetic judgments in meaning-making processes during cooking? The data comes from video-documented classroom observations where the students cook together. Using a pragmatic approach and practical epistemology analysis (PEA), three ways in which the students use aesthetic judgments are illustrated: as arguments in negotiations, as reference points when reactualizing experiences, and as nonverbal actions evaluating sensory qualities. Empirical examples exemplify how aesthetic judgments play a role in establishing power relations, entail social/normative values, and influence the "tacit knowing" of cooking. The study found that aesthetic experiences are integral and important in students' meaning-making during cooking practices. Moreover, by adding a new classroom context to the methodology used, its applicability for investigating aesthetic experiences and meaning-making is confirmed and widened.

Keywords: aesthetic judgments, cooking, home and consumer studies, practical epistemology analysis, pragmatic approach

Introduction

Cooking and eating have been studied and defined in many ways and from different perspectives. Thereby, this field of studies is of a multidisciplinary nature, according to Warde (2016), who describes how consumption in relation to eating has become important as an aesthetic expression. Rozin (2000) also highlights the aesthetic values of food as one cooks and transforms basic foodstuffs into appropriate edibles. In discussions about the consumption of food, Bourdieu uses the concept of aesthetic refinement to describe the cultivation of taste among people with social and cultural capital (Bourdieu, 2005/2017). He claims that norms of what constitute “good” taste play a part in the human socialization process (Bourdieu, 1984/2013). In studies of cooking education at hotel and restaurant training programs, Fine (1985) showed how aesthetic socialization is an important aspect when students learn to cook, and thereby that norms in relation to aesthetics constitute a part of the learning processes of cooking. Learning aesthetic norms can thus be considered a part of both formal learning and socialization in everyday life.

In the context of formal education, cooking is included in the school subject of Home and Consumer Studies (HCS). In Sweden, HCS is mandatory for all children in compulsory school, and cooking is a part of the core content (National Agency for Education, 2018). Over the last decade, an increase in studies exploring different aspects of HCS education in Sweden has been observed. However, few of them focus on the classroom practice of cooking in relation to meaning-making, and even today, no studies have been found that focus on aesthetics. This is despite that existing research by Östman and Almqvist (2011), who studied scientific literacy by using practical epistemology analysis (PEA), stressing that aesthetic experiences are important elements of meaning-making processes. They also emphasize that aesthetic experiences have normative implications for the meanings made and thus affect the direction the learning takes. Therefore, to navigate HCS students’ meaning-making processes and to support the teaching strategies of HCS teachers, an understanding of aesthetic experiences during cooking is relevant, particularly because both students and teachers bring norms about the everyday practice of cooking learned elsewhere into the learning context of school.

To operationalize aesthetic experiences and thereby enable an empirical investigation, one possibility is to study expressions communicated as aesthetic judgments. Therefore, in this paper, meaning-making will be explored by using PEA in a new classroom context – to study different ways

in which students use aesthetic judgments when they engage in formalized cooking practices in HCS.

Literature review

Cooking is an activity filled with aesthetic experiences, as it appeals to sight, taste, texture, smell, and in some cases, even sound (Fine, 1985). Experiences of cooking are thus influenced by the sensory aspects of food and also involve aesthetic aspects because sensory perceptions are associated with aesthetics (Fine, 1996). The concept of aesthetics has its semantic origin in the Greek word *aisthesis*, which means “sense perception” (Freeland, 2012). With a significant focus on the senses, aesthetics is traditionally related to notions of pleasure and taste. In this tradition, and in contrast to the gustatory taste that we experience in our mouth, the word “taste” is used metaphorically to describe evaluative judgments of what is beautiful or ugly (Dickie, 1971).

However, gustatory taste experiences of food and drink have a long history of being excluded and considered not worthy of aesthetic evaluation (Charters & Pettigrew, 2005; Korsmeyer, 2017). The exclusion of gustatory taste in the philosophy of aesthetics may be explained by a traditional hierarchical view of the senses, where vision and hearing are seen as sublime because they allow for “objective contemplation”, while taste, smell and touch are ranked lower because they are primarily used for utilitarian purposes (Freeland, 2012; Korsmeyer, 2017). An issue with gustatory taste is that it “is not only subjective but also relative. It depends on factors idiosyncratic to the taster” (Korsmeyer, 2002, p. 100). When we taste an object, we taste not only the object itself but also our desire for it (Charters & Pettigrew, 2005). Therefore, as tasters, we may find something delicious one day and disgusting the next.

Fine (1985) examined the aesthetic aspects of learning to cook, and through his studies of hotel and restaurant training programs, concluded that aesthetic norms were socially situated and learned through socialization processes. Likewise, studies in science education have shown how students use aesthetic experiences to discriminate between what belongs and what does not belong in a learning situation (Wickman, 2006). Hence, aesthetic experiences can have normative consequences by influencing expectations of what should, or should not, be included in learning activities (Östman & Almqvist, 2011). One example of how normative consequences of aesthetic experiences have been noticed in the classroom is described by Jakobson and Wickman (2008). They show how students in elementary school science used aesthetic judgments to proceed in activities by encouraging each other’s actions with utterances such as “awesome” when experiments went in the right direction according to institutionally set values. The students also used negative judgments such as “yuck” when experiments took a different direction than anticipated.

Similarly, Maivorsdotter (2012) highlights how aesthetic experiences have normative implications for what is included in sport activities in a learning context. She exemplifies this by analyzing how experiences affect the direction the meaning-making takes as well as how the participants proceed in their sport activities. In the above studies of different educational contexts, aesthetic experiences seem to have an important role in meaning-making processes.

In the Swedish curriculum for the compulsory school, cooking is included in the syllabus of HCS. One of the aims of the subject is to help students develop “their ability to take initiatives and be creative when preparing food, creating meals and other tasks in the home” (National Agency for Education, 2018, p. 42). With its 118 teaching hours, HCS is the smallest subject of Swedish compulsory school, and the lessons are commonly scheduled for the students when they are between 11–15 years old (Lindblom, Erixon Arreman & Hörnell, 2013). Cooking has been important in HCS since its introduction as a school subject (Hjälmeskog, 2000). Even if the current HCS syllabus includes other aspects, such as lifestyle choices and personal finance, cooking still is a central feature (National Agency for Education, 2018). Therefore, HCS classrooms are usually equipped with kitchen units that contain stoves, sinks, and work surfaces (Lindblom, Erixon Arreman & Hörnell, 2013). Accordingly, HCS classrooms differ from other educational contexts in terms of spatial structure and the many activities going on simultaneously: during the cooking processes, the classroom is filled with sounds, smells and other sensory stimuli (Höijer, Fjellström & Hjälmeskog, 2013; Gisslevik, Wernersson & Larsson, 2018; Granberg, 2018). A common task in an HCS lesson is that, by following a recipe, students prepare a meal together and then taste the results (Lindblom, Erixon Arreman, Bohm & Hörnell, 2016). Consequently, students are confronted with the results of the cooking process in a sensuous way – by eating the food. Eating is an intimate act, which involves taking an external substance into the body and sensory responses become a part of the experience (Korsmeyer, 2002). Students’ sensory preferences have been suggested as a factor that influences HCS education. For example, a contradiction between students’ sensory preferences and the implementation of HCS syllabus goals concerning education about sustainable food consumption was seen in classroom observations (Gisslevik, Wernersson & Larsson, 2017). Individual taste preferences sometimes made the students hesitant to follow the teacher’s instructions regarding including “environmentally friendly” ingredients into their cooking practices (*ibid.*). Moreover, Bohm, Lindblom, Åbacka, and Hörnell (2015) describe how contradicting discourses affected how HCS students handled vegetables within the subject. They show how the students’ sensory preferences guided ingredient choice except for when the assignments were explicitly connected to grades and where aspects concerning health were more dominant. Thus,

previous studies of HCS have noticed how a tension between students' sensory preferences on the one hand, and syllabus goals concerning sustainability or health on the other, influenced the cooking practices.

Cooking can be understood as “the process of transforming food into socially and culturally acceptable end products: that is, meals or parts of a meal” (Janhonen, Torkkeli & Mäkelä, 2018). Accordingly, cooking skills encompass not only technicalities such as chopping, frying and boiling, but also abilities to organize the process, to read and interpret recipes, and to use the senses to evaluate the qualities of the food (see for example Wolfson et al., 2017; Brunosson, Brante, Sepp & Mattsson Sydner, 2014; Caraher & Lang, 1999). These skills have traditionally been learned through apprenticeship, involving continuous engagement with the physical and sensory qualities of food (Jaffe & Gertler, 2006). Moreover, cooking skills are often conceptualized as artistic skills, for instance, within the field of culinary arts (Korsmeyer, 2002). However, in this paper, we will not examine cooking as an art form or food as “a work of art”, nor will we study the aesthetic properties of food. In the context of formalized cooking education, we still know little about students' aesthetic experiences and their use of aesthetic judgments. Consequently, the focus of this study will be on analyzing if, and how, students' aesthetic experiences are part of meaning-making processes when learning to cook in HCS.

Aim and research question

The aim is to explore HCS students' meaning-making processes with a focus on aesthetic judgments when learning to cook in formalized practices. This is reflected in the more specific research question:

- In what ways do students use aesthetic judgments in meaning-making processes during cooking?

Research methodology

This paper presents the first results of a case study aiming to explore different aspects of teaching and learning within HCS education. The study as a whole is designed as a semi-longitudinal single case study, where students from one school class and their two HCS teachers participated through a full school year (2017/2018). It involves a variety of qualitative methods such as video-documented classroom observations, semi-structured interviews with teachers, focus group interviews with students, and a collection of written documents. The study design is inspired by Yin (2017), who describes the case study as an empirical inquiry that investigates a contemporary phenomenon within its real-life context. Moreover, the study is designed with the intention of gathering rich data that enables an in-depth investigation of teaching and

learning that takes place during an extended timespan by using a pragmatic approach as a theoretical and methodological framework.

Theoretical framework and analytic approach

The methodological underpinnings come from a sociocultural understanding of learning as well as a pragmatic approach where “the meaning people make is always embedded in a practice with its aims and the socially shared meanings needed for participating” (Wickman, 2004, p. 327). Consequently, meaning-making is seen as continuous and visible in, and through, human actions. This definition broadens the narrow view of learning as solely an intrapersonal, cognitive event and additionally recognizes interpersonal as well as institutional aspects (Rogoff, 1995). The consideration of intrapersonal, interpersonal, and institutional aspects when studying meaning-making is operationalized by adopting Dewey’s holistic use of the term *experience*. Dewey explains that an experience is constituted by the whole situation taking place between an individual and her or his environment: a process which he refers to as “transactions” (Dewey, 1929/1984; Dewey & Bentley, 1949/1976). With this transactional approach, Dewey allows us to consider *embodiment* as the continuous processes in which bodies and their environments co-constitute one another (Sullivan, 2002). In other words, what bodies do and become in and through their functional coordination with the environment (Sund, Quennerstedt & Öhman, 2019).

When encountering new situations, people recall experiences from previous encounters, which has a transformative influence on how the earlier encounter is made intelligible: the experiences are *reactualized* (Lidar, Almqvist & Östman, 2009). Students’ experiences in the classroom can be investigated through their actions, which, in turn, lead the activities in different directions. Situated in a learning context, actions can lead activities towards, or away from, consummation. Dewey (1934/2005) explains that the aesthetic qualities of experiences enables individuals to evaluate whether or not undertaken actions are heading towards consummation. Therefore, utterances or nonverbal actions that are used to communicate whether actions are headed towards or away from consummation are referred to as *aesthetic judgments*. These judgments deal with qualities of objects or events that are not innate to the objects/events themselves but rather evaluations related to pleasure and taste (Wickman, 2006). Actions such as body language, postures and other movements are seen as embodied engagements. However, it is important to note that actions are not only considered in terms of nonverbal physical movements of the body, but also the students’ talk is considered as situated action, and thus, a form of embodied engagement. Therefore, rather than considering students’ talk in a representational way as outer statements

of their inner mind, the focus is on the use of words and utterances in the observed situations (Wickman, 2006).

The interplay between how students create meaning and what meanings they create is investigated in this study by using PEA (cf. Lidar, Lundqvist & Östman, 2006; Lidar, Almqvist & Östman, 2009). PEA has its theoretical and conceptual roots in sociocultural research and pragmatism, building on points made by Dewey and the late Wittgenstein (Wickman & Östman, 2002). Originally developed by Wickman and Östman (2002), PEA aims to study students' meaning-making and learning in institutionalized and socially shared practices. Wickman and Östman (2002) undertook their analysis in the context of science education, but PEA has subsequently been used within other educational contexts (see for example Piqueras, Hamza & Edvall, 2008; Lidar, Almqvist & Östman, 2009; Maivorsdotter & Quennerstedt, 2012; Hofverberg & Maivorsdotter, 2018).

The “practical” in PEA stresses that what counts as relevant knowledge in a practice is context-bound and dependant on the purposes for actions in the specific practice (Wickman & Östman, 2002). One of the strengths of PEA is that it deals with situational, continuous, as well as transformational aspects of the learning process (Wickman, 2006). The emphasis is on describing *what* the students encounter, *how* they act to proceed with the activity, and the relationship in between.

Central concepts of PEA used here to analyze meaning-making processes are encounters, standing fast, gaps, and relations. *Encounters* occur when the students interact with each other and/or with their surroundings, such as teachers, recipes, food, and so on. Experiences are made continuous in encounters as they involve the reactualizing of previous experiences as well as implications for upcoming experiences. During encounters in the classroom, students act and interact with each other in a variety of ways, such as talk. *Standing fast* is a term used to describe what is taken for granted and remains unquestioned. What stands fast between the students does not necessarily equate to what stands fast in another or a broader context (Wickman, 2006.). An object that we traditionally would call a “teaspoon” can, for example, be called a “tablespoon” by the students without anyone objecting to or questioning this labeling: “tablespoon” stands fast by the students in this situation. Through encounters, and with help of what is standing fast, activities can proceed. Nevertheless, there are always elements of transformation in a learning situation: gaps occur that need to be filled with meaning. A *gap* occurs when an activity is disrupted, and actions are taken to fill the gap. With the use of what is standing fast from previous encounters, the gaps can be filled through the establishing of *relations*, which bring new meaning to existing experiences as the continuous process of experiencing proceeds.

Taken together, and from the point of departure of Dewey's thoughts on experience and education, studies of meaning-making processes through PEA have been developed by Wickman and Östman (2002) and subsequently used to encompass aesthetic experiences (Wickman, 2006). Jakobson and Wickman (2008) then operationalized aesthetic experiences by analyzing aesthetic judgments in elementary school science. In this paper, aesthetic judgments in formalized cooking practices of HCS will be described and analyzed for the first time.

Study design

The empirical basis behind the results comes from the video-documented classroom observations, encompassing eighteen video-recorded HCS lessons. An overview of the observed lessons and the participating students is included as Appendix 1.

The rationale for using video recordings to operationalize the research question was that they allow for an analysis of fine details through repeated reviews of the data (Heath, Hindmarsh & Luff, 2010). As cooking involves many processes and simultaneous activities, the intention was to capture and analyze the complex processes taking place at the kitchen units, including a rich span of embodied engagements such as nonverbal actions thereby allowing for a pluralistic interpretation of the occurring events. Another rationale for using video-documented observations rather than, for example, interviews was the aim to describe and analyze the meaning-making process "directly in terms of changed action, rather than indirectly in terms of changed cognition" (Hamza, 2010, p. 23).

Study setting and participants

Data was collected by the first author at a compulsory school during the school year of 2017/2018. The school is located in a central, socio-economically strong area of one of Sweden's largest cities. A purposive selection of study participants was made with the aim to include qualified, experienced HCS teachers. The two teachers included in the study are formally qualified and have several years of professional experience. The teachers were involved in the process of recruiting the participating students, and they suggested a school class that could be suitable for the study. The request given to the teachers was to suggest a group of students that were communicative and would create good conditions for a focused working environment. Consequently, the study participants are two HCS teachers and twelve students from eighth grade (14–15 years old).

The observed lessons were each scheduled for 100 minutes. Before they began, the teacher described the purpose of the upcoming lesson for the first author. Thereafter, the students were invited into the classroom. After an

introduction given by the teacher, the students were paired up and commenced the cooking process at separate kitchen units. The lesson introductions were documented with audio recordings and field notes but were only included as descriptions of the lesson contexts. The video recordings started when the students went to their kitchen units. Each recording includes two students cooking together, except for one recording with only one student. In total, eighteen lessons were video recorded and two recordings were made during each lesson. This resulted in 36 video recordings and approximately 26h 14 m of video data. Following recommendations by Luff and Heath (2012) concerning how to conduct video observations of two to three people in semi-public settings, an open camera angle was used with a fixed camera placed on a tripod (i.e. a stable mid-shot).

Data analysis

The analysis process was conducted in four steps and initiated in the data collection phase, where the first author was a participant observer of the recorded lessons. During the observations, notes were taken regarding situations occurring in the classrooms. The notes then served as a facilitator when the first author watched the recordings. As a second step, all the video recordings were viewed and events that were considered to be of relevance to the research question were marked using NVivo11.¹ The marked events were then reviewed and reconsidered in light of their relevance for the research question, and events were selected that would provide rich material representing the different ways in which aesthetic judgments were found to be used. As a third step, the selected events were transcribed verbatim for further analysis. When it was deemed relevant, transcriptions also included visible nonverbal actions such as stirring, touching, feeling, smelling, and so on. The fourth step was the PEA analysis of the transcribed events, which was performed by the first author. In all stages of the process, the selected events and their transcripts were scrutinized by all authors, and the results emanating from the analysis were discussed, modified, and agreed upon by all the authors.

The results are presented as “close-to-data” text (including an illustration of the setting), as the methodology of PEA is descriptive in character. All quotations have been translated from Swedish to English with the intention of keeping original connotations of the sentences after having been carefully edited for readability. The names of the participants have been changed to protect their identity.

¹ NVivo is a software for qualitative analysis, produced by QSR International Pty Ltd, Australia. The NVivo11 version was introduced in 2015.

Ethical considerations

When performing classroom studies, there are some inevitable ethical concerns regarding, for example, the power relations between researchers, teachers and students, which need to be taken into consideration (Robson & McCartan, 2016). Furthermore, video recordings of children are associated with ethical implications that need careful attention (Flewitt, 2006). Therefore, the ethical considerations concerning video research suggested by Heath, Hindmarsh, and Luff (2010) have been taken into account, and guidelines for good research practice by The Swedish Research Council (2017) have also been followed throughout the entire research process. Written informed consent was obtained from the participating students as well as their legal guardians, and the study is approved by the Regional Ethical Review Board in Uppsala (ref. no. 2017/230).

Results

At the beginning of each lesson, the teacher introduced the upcoming cooking tasks in relation to different themes. The themes of each lesson had been decided on beforehand and were stated in a study plan given to the students. Apart from lessons with a “creative cooking” theme, the students were assigned a recipe that was presented and discussed during the introduction. Generally, the tasks allowed for little freedom of choice concerning ingredients and cooking techniques. However, during the “creative cooking” lessons, the students were allowed to, and even expected to, make choices. Each lesson finished with the students eating their food, as they were always expected to eat what they had cooked.

As an overall pattern seen in the analysis process, the students made significant efforts to cook food that brought positive aesthetic experiences related to gustatory taste. Additionally, an importance was placed on the visual appearance of the food – not only should the food taste good, but also it should look good. The students’ endeavors for positive aesthetic experiences were observable through their use of aesthetic judgments during the cooking practices. The following sections provide empirical examples of how the students used aesthetic judgments in selected events of the observed lessons. In the first three events, the “aesthetic” of the judgments are apparent, as the students refer to the pleasure-related aspects of gustatory taste (Events 1, 2 and 3) and visual appearance (Event 2). Additionally, Events 2 and 3 depict how the students use aesthetic judgments when reactualizing previous cooking experiences. Finally, Events 3, 4, and 5 illustrate the students’ aesthetic judgments when they use their senses to evaluate if the food is ready. An overview of the events including lesson number, lesson theme, cooked dishes, and participating students is found in Table 1.

Table 1. Overview of the events

Event	Lesson no.	Lesson theme	Dish cooked	Students
1	18	Creative cooking without recipe, plate model	Varied ingredients	Marie Daniel
2	18	Creative cooking without recipe, plate model	Varied ingredients	Carl Caroline
3	11	Precision chopping, hygiene	Sushi	Carl Caroline
4	1	Cooking techniques, frying	Breaded fish with boiled potatoes	Carl Fred
5	3	Organizing the working procedure	Crêpes stuffed with stew	Caroline Eddie

Event 1: Using aesthetic judgments to negotiate choice of ingredients

In the first event, Marie and Daniel were instructed by the teacher to cook a “creative meal”. They were assigned the ingredient, quinoa, and instructed to choose additional ingredients to combine with the quinoa to get a complete meal according to the plate model (the plate model is a pedagogical tool often used in HCS education to illustrate “healthy” proportions of different foodstuffs on a plate). According to the teacher, the purpose of the lesson is for the students to use their creativity to compose a proper meal according to the plate model, basing their decisions on raw ingredients instead of recipes. This is one of the last HCS lessons of the school year, and the students are now familiar with the classroom and its features. The teacher lets the students work quite freely, and is nowhere near when Event 1 takes place.

In this encounter, the students need to decide what ingredients to use in combination with quinoa to proceed with the activity. When the students negotiate about what ingredients to add as a complement, their discussion is filled with aesthetic judgments that highlight the gustatory taste of the food is central to their choices:

1. Marie Can we please make salmon?
2. Daniel Let’s make Bolognese sauce.
3. Marie Ew, quinoa and minced meat!
4. Daniel Ew!

5. Marie Please, can we take this? [Points at a piece of salmon] Please, can we take salmon?
6. Daniel No, it was moldy. (...) Okay, but what sauce should we have? Because I am thinking that we should have something that we can hide the taste of quinoa in, if you know what I mean.
7. Marie But look, look. We can't cook minced meat and quinoa. It kind of doesn't match.
8. Daniel You fry the minced meat. Then you add some sauce.
9. Marie We can just season it quite a bit.
10. Daniel Yes, exactly.
11. Marie If we season it a lot

The understanding between the students, what stands fast, is that quinoa does not taste good. The gap that the students notice is that they need to find ingredients that taste well with the quinoa or hide the taste of the quinoa. Daniel attempts to establish a relation by suggesting they make Bolognese sauce (2), while Marie quickly responds with the aesthetic judgment *ew* (in Swedish, “usch”) (3). *Ew* is thereby used as an expression of dislike about the combination of quinoa and minced meat. Daniel quickly responds by repeating the word, *ew* (4). He then identifies the gap as a need for the taste of quinoa to be hidden (6). Marie, on the other hand, focuses on finding something that matches well with the quinoa (7).

Marie walks away to a table with ingredients. When she comes back from picking up the ingredients, it turns out that she got salmon instead of minced meat – a decision that makes Daniel protest:

12. Marie We can make this much more tasteful, I promise!
13. Daniel Yuck! (...) I will throw up. I will throw up.
14. Marie Honey-glazed salmon.
15. Daniel You'll have to fix the salmon

16. Marie Yes.
17. Daniel (...) But what if I throw up from eating salmon, Marie?
18. Marie Well, yes. The trashcan is over there.

Marie did not follow Daniel's suggestion that they use minced meat; she justifies her decision to Daniel by insisting that the salmon will taste better (12). At the end of the lesson, the students eat the meal consisting of quinoa and honey-glazed salmon. Marie, as well as Daniel, express that they like it.

In this event, aesthetic judgments about gustatory taste are used as arguments to negotiate choice of ingredients. It becomes clear that using powerful expressions of gustatory taste is an important part in directing the meaning-making process. Moreover, the negotiation about ingredient selection in this event does not end in an agreement. Instead, Marie's actions indicate that she considered her aesthetic judgment about compatible ingredients to be the only possibility.

Events 2 and 3: Using aesthetic judgments in reactualizing experiences

During Events 2 and 3, the students' encounters entail reactualization of previous experiences involving cooking. Aesthetic judgments are used in relation to these experiences to establish relations and give direction to the activity.

In Event 2, which took place during the same lesson as Event 1, Carl and Caroline have prepared chicken stew with oven-baked potato slices and broccoli as their "creative meal". They are about to arrange their food on plates when a TV show about cooking (MasterChef) comes up:

19. Carl But I don't get how it looks so good on MasterChef!
20. Caroline But it is because they have so little food. I mean, they would have had this much chicken stew, and then they would have had like two potato slices and a piece of broccoli this small [*indicates small portions with her hands on the plate*].
21. Carl Yes.

22. Caroline It really is like that. And then they are better at it.

In his first utterance (19), Carl identifies a gap by stating that the visual appearance of his and Caroline's food is not as pleasing as the food in the TV show, MasterChef. Caroline responds by construing a relation – the masterchefs use less food (20), an argument that stands fast between the students (21). As the conversation proceeds, Caroline and Carl continue to discuss how the food on the TV show is portrayed:

23. Carl It is not much food.
24. Caroline No. And they never go by the plate model either.
25. Carl No. They go by what is tasteful and good-looking.

That a smaller amount of food on the plate will make the food more appealing now stands fast as the “plate model” is included in the conversation. Here, the relation that the students construe entails a dualism where tasteful and good-looking food is placed in opposition to plate model food (24, 25).

In this event, the students reactualize their experiences of how professional chefs in a TV show portray food as well as their experiences of the plate model to make aesthetic judgments concerning the ideal visual appearance of the food on their plates. A relation is created and meaning-making takes place – less food on the plate will make it more visually appealing.

The purpose of the lesson when Event 3 takes place is, according to the teacher, for the students to practice precision work by cutting up fine pieces of ingredients and to be aware of hygiene since they are working with raw fish. Here, Carl and Caroline have been cutting up pieces of vegetables and fish and are now preparing sushi rice. They are friends outside of school and have experiences of making sushi together at home. Carl have just tasted the rice:

26. Carl Mmm, I liked it.
27. Caroline But do you remember that last time we made sushi? We did it like that, and then it became really hard.
28. Carl How?
29. Caroline When we said, “No, but now the rice is done”,

that was exactly how we did it. And then it was a little bit hard and then it became really hard. It wasn't tasty at all. I think we should... almost... one should almost overcook it.

First, Carl expresses that he likes the rice, which in the given situation suggests that they should take the rice pot off the stove (26). Caroline, on the other hand, objects. She uses experiences from a previous event to establish the relation that the duration of the boiling will affect the hardness of the rice and that the rice should continue to boil (29). Carl does not protest, and the rice is left on the stove for a few more minutes.

In Events 2 and 3, aesthetic judgments in terms of gustatory taste and visual appearance are used when reactualizing previous experiences involving cooking. Used this way, by interlinking previous and present events, it is visible how the aesthetic judgments are integral when continuity is created in the students' meaning-making processes.

Events 4 and 5: Using aesthetic judgments as sensory evaluations

During Events 4 and 5, the students faced situations where they needed to make sensory evaluations to decide how to proceed in the activity. The sensory evaluations are considered embodied aesthetic judgments expressed in a nonverbal way, as they concern experiences related to pleasure and taste.

Event 4 took place during the first HCS lesson of the school year. The students have previous experiences of one semester with HCS. However, as the students are still quite new to the context, the teacher walks busily around the kitchen units and helps the students find what they need (i.e., utensils, ingredients, etc.) and also with matters concerning the cooking process. According to the teacher, the purpose of the lesson is to practice cooking techniques, in particular, frying, by preparing and frying breaded fish. The fish is served with boiled potatoes, and here, Fred struggles to decide whether the boiling potatoes should be removed from the stove or not:

- | | | |
|-----|------|---|
| 30. | Fred | It is kind of done [<i>picks at the boiling potatoes repeatedly with a skewer</i>]. |
| 31. | Carl | Is it? |
| 32. | Fred | Yes [<i>keeps picking at the potatoes</i>]. |
| 33. | Carl | Good. |

34. Fred Feel it... Feel it, please! [*Still picking*]
35. Fred Feel it! It, it ... it is kind of done [*hands the skewer over to Carl*].
36. Carl Yes, it probably is. Yes [*picks at the potatoes repeatedly*].
37. Fred Very weird, but it is actually done. Hey, you! It is kind of done. Feel it. It is really do... [*approaching Birgit, the teacher*].

In this encounter, a gap occurs when the students need to make an aesthetic judgment in order to decide whether or not to let the potatoes continue to boil. Fred is primarily responsible for the potatoes, and he eagerly acts to construe a relation between readily cooked potatoes and their sensory characteristics. He does so by picking at the potatoes repeatedly (30, 32, 34). The method to make the judgment (feeling the texture of the potatoes with a skewer) stands fast between the students. This is especially apparent when Fred tells his peer, Carl, and later, the teacher, to feel the texture of the potatoes with the skewer (34, 35, 37). Even after Carl has confirmed that “it probably is done”, Fred does not manage to fill the gap – the gap still lingers. This event illustrates how nonverbal actions are used to make aesthetic judgments regarding the sensory qualities of food.

In Event 5, Caroline and Eddie struggle with a similar situation. The purpose of the lesson according to the teacher is for the students to practice working procedures – how to organize the cooking to make it effective and achieve a good result while preparing a complex meal. The students are making crêpes, which involves making pancakes and then making mushroom stew as a filling. Here, Caroline and Eddie encounter the task of making pancakes from the pancake batter, and Caroline has just tasted a small sample pancake that she made:

38. Caroline I took this little pancake, and it just, it was kind of like a tire. It was very [*laughing*] rubbery. [*Pours new pancake batter into a frying pan, moving the frying pan around and adjusting the temperature of the stove and touching the pancake repeatedly with a spatula*].
39. Eddie What? Is it disgusting?
40. Caroline Horrible.

The negative aesthetic judgments made here (38. *rubbery*, 39. *disgusting*, 40. *horrible*) concern the texture of the sample pancake. As they continue, the aesthetic judgments expand to include other sensory aspects, primarily visible in Caroline's nonverbal actions:

41. Caroline *[Takes the frying pan off the stove plate and touches around the pancake repeatedly with the spatula].*
42. Eddie It is stuck, kind of.
43. Caroline Yes. It is *[laughing]*.
44. Eddie Oh, no!
45. Caroline Correct *[continues to touch the pancake with the spatula, then inserts the spatula under the pancake, which falls apart].*
46. Eddie Oh, damn!
47. Caroline *[laughing]*
48. Eddie Oh, no!
49. Caroline I have never seen anything this horrible in my whole life. What's happening? Why don't they have Tefal pans? This is much too complicated for me *[keeps touching and turning parts of the pancake and putting the pan back on the stove plate].* ...But let's say that it is because it is the first pancake, because people usually say those are bad *[patting the pancake with the spatula]*.
50. Eddie Yes.
51. Caroline Birgit, how does one make pancakes? *[Asking the teacher who is not nearby].*

[She lifts up the biggest piece of the unfinished, broken-apart pancake with the spatula and

shows it to Eddie before placing it on a porcelain plate].

52. Eddie Damn.

In this encounter, a gap occurs regarding when to flip the pancake. Caroline acts to establish a relation between a pancake ready to be flipped and its sensory characteristics. She does so by touching the pancake repeatedly with the spatula (41, 45). This can be seen as an attempt to make an aesthetic judgment regarding when the pancake is ready to be flipped. The students struggle to proceed with the activity, specifically, how to handle the frying pancake. Caroline finally states that people usually say that the first pancake becomes bad (49), which can be seen as a construed relation between what had just happened (the unsatisfactory making of a pancake) and what may happen in the near future (a better result with the second pancake). The encounter leaves a lingering gap about how to prepare a pancake.

In Events 4 and 5, aesthetic judgments are used to make decisions about whether the prepared food is ready or not. The judgments become of critical importance because the subsequent actions taken will affect the gustatory taste and visual appearance of the food. The events clearly show that the students engage in a broad spectrum of embodied actions involving senses, such as touching, looking at, and tasting the food.

Discussion

By using a pragmatic approach operationalized through PEA, the results portray different ways in which HCS students use aesthetic judgments when they engage in formalized cooking practices. Through the analysis, it is clear that aesthetic experiences are diverse and of central importance because they direct the meaning-making processes. Moreover, aesthetic experiences are continuous, as experiences from the past are used as references for comparative aesthetic judgments. Others have discussed this in detail, for example, Fine (1996) in relation to cooking and Wickman (2006) in an educational context.

Illustrated by Event 1, aesthetic judgments were used in negotiations about the choice of ingredients. Expressions of gustatory taste and visual appearance served as arguments in the negotiations. Neumark-Sztainer, Story, Perry, and Casey (1999) have highlighted how adolescents consider taste and appearance as primary factors that influence their food choices. Hence, as the students were expected to eat the food they cooked, the endeavor to prepare a meal that brought positive aesthetic experiences related to gustatory taste and visual appearance was reasonable.

By expressing certain likes or dislikes regarding food in a social context, as the students do in this study, aesthetic judgments become an interpersonal matter interacting with social and normative values. Taste is described by Fine (1996, p. 208) as a social construction because “good” taste is not in the food *per se*, but rather taste preferences can be influenced by social and normative values, which has been discussed in depth by Bourdieu (1984/2013). According to Bourdieu, norms of what constitute “good” taste are decided by the bourgeois, as in, people with social and cultural capital. He furthermore argues that taste is intimately connected to power relations (*ibid.*). Looking at the course of action in Event 1, there is an obvious evolving power struggle between the students regarding who will decide what to cook. Thus, seen from a Bourdieusian view, the aesthetic judgments that the students use have a broader meaning than expressing the strictly interpersonal gustatory experience – the judgments can be understood as used to negotiate a power relation between the students. In this case, the meaning-making taking place concerns power in relation to taste norms as well as new taste experiences.

Events 2 and 3 illustrate how the reactualization of aesthetic experiences, expressed as aesthetic judgments, serve as reference points in meaning-making processes. They entail social and normative values and direct the meaning-making, thereby creating a continuity of experiences. This was visible in Event 2, where the students relate their own food to food portrayed on the TV show, *MasterChef*. They ascribe the beauty of the *MasterChef* food to the amount and proportions of food on the plates as well as to the chefs’ skills. The plate model, a tool used often in HCS with normative implications concerning the “healthy” proportions of foodstuffs on a plate, is related to the aesthetically appealing food on the TV show. Hence, Event 2 involves meaning-making through comparing norms presented in HCS to aesthetic values of a broader social context. The meaning-making taking place implies that, by using other amounts and proportions of food than that of the plate model, the food will be more visually appealing.

In Event 3, the students discuss a previous situation where they prepared rice for sushi together. Through highlighting the aesthetic aspects from the earlier encounter involving making sushi rice, the students reactualize the previous experience, where they notice a gap. This, in turn, directs the activity in that the cooking time is prolonged. Reactualizing previous experiences like this, where gaps are noticed, entails that relations can be construed and new meanings made. Therefore, this kind of reactualization is expected in a learning situation (Wickman, 2006). Recalling previous aesthetic experiences as a way to proceed in the activity connects past and present, which in turn, creates a continuity and gives a direction for the students’ continued actions (Jakobson & Wickman, 2008).

In Events 4 and 5, the students undertake repetitive actions (e.g., touching the potatoes or the pancake repeatedly), which can be regarded as the students’

attempts to fill gaps. Their embodied engagement indicate a request for sensory feedback from the food as well as confirmatory feedback from peers and/or the teacher. In this case, the sensory feedback from the food allows for aesthetic judgments expressed in a nonverbal way, evaluating if the food is ready. The repetitive actions, in combination with using different senses to find the most effective way to make aesthetic judgments, can hence be seen as an important part of the meaning-making process. The embodied knowing-in-action required to make aesthetic judgments in cooking is sometimes referred to as “tacit knowledge” (cf. Fine, 1996). However, the concept of “tacit knowing” has been suggested as a reconceptualization of tacit knowledge, thereby emphasizing the processual characteristics more in line with a pragmatic approach (Andersson & Östman, 2015). The tacit expression of experience-based, embodied knowing is important in cooking. For example, Jaffe and Gertler state that “a good cook knows how things ought to taste, smell, look, feel, and sometimes even sound through different stages of the cooking process” (Jaffe & Gertler, 2006, p. 147). Inevitably, the students’ repetitive “dialogue” with the food leads to an increased familiarity with the food and its changing qualities during cooking.

Implications for teaching and learning in HCS education

In all occupations, one can find aesthetic as well as instrumental aspects, and this is also the case with cooking (Fine, 1996, p. 229). When the teachers in this study described the purposes of the lessons beforehand, the focus was on instrumental aspects of cooking, such as the plate model and cooking techniques. However, through the analyzed events, it became clear that aesthetic experiences were a central part of the activities. Aesthetic experiences were found to be integral to the students’ meaning-making, and the ways the students used aesthetic judgments had social as well as normative implications.

HCS is a subject with a pronounced connection to the home and the family. As such, it may be relevant for teachers to be aware that aesthetic experiences recognized in the classroom can be interlinked with social and normative values closely related to the private sphere of all the participants. This suggests that teachers should pay special attention to how the experiences are treated to respect the integrity of their students. The Swedish HCS syllabus states that “In a process where thinking, sensory experiences and action are all interlinked, pupils should be given the opportunity to develop expertise with regard to food and meals.” (National Agency for Education, 2018, p.42). To highlight this integrative process while recognizing aesthetic experiences, cooking can be executed in an experimental fashion, allowing the students to prepare and taste foods with different methods, cooking times, seasonings, and so on. A method developed for the sensory training of children, Sapere, may

serve as an inspiration. For example, the Swedish National Food Agency (2015) have produced a Sapere-material with exercises for children aged 10-12 years, aiming to promote curiosity and ability to describe and try different foods and taste experiences.

Taken together, the findings can contribute to informed discussions about how aesthetic experiences during cooking affect meaning-making, which opens up for new theoretical approaches in HCS classroom practices as well as in further research concerning teaching and learning in HCS.

Methodological contribution and concerns

In this empirically driven paper, PEA is applied to a new context – the formalized cooking practices of HCS, in order to study aesthetic judgments. The results are in accordance with results from previous studies investigating aesthetic experiences and meaning-making within other school subjects (cf. Maivorsdottir, 2012; Wickman, 2006; Jakobson & Wickman, 2008). By adding a previously unexplored classroom practice to the research field of aesthetic experiences and meaning-making, this paper contributes with new and systematic knowledge, suggesting that the theoretical and methodological assumptions made are valid in a wider context. With the pragmatic approach adopted here, the students' actions have been in focus during every step of the analysis process. This has allowed for a discussion about how the students act and how their actions affect both subsequent actions and the meaning-making that is taking place.

The students participating in the study were a relatively homogenous group of communicative and committed students, which makes it hard to draw conclusions about the results in relation to a more diverse context. However, the purpose of this study was not to make generalized claims about aesthetic judgments, but rather the intention has been to describe and analyze how the judgments were used in situated action. Additionally, the students were observed by a researcher and video recorded during the lessons, and this may have affected their actions. Regardless of the factors that may have affected the students' actions and thereby the results, the observations enabled a practical epistemology analysis of the encounters as they appeared.

The process of narrowing down the raw data to five isolated events was both iterative and reflexive and concerned many recordings that required sifting through. The rationale for selecting and demarcating the events was found in the research question: the ambition was to select events that, in the richest way possible, highlighted the different identified ways in which aesthetic judgments were used. Nevertheless, alternative ways of using aesthetic judgments may also be present in formalized cooking practices, possibly even in the excluded recordings of this study.

Directions for further research

By recognizing how aesthetic judgments are used in meaning-making during the cooking practices, several gaps have been identified for further research. As this study exclusively considers students' actions, one approach would be to explore HCS teachers' use of aesthetic judgments during cooking, and how they interact with students' meaning-making processes. Another question to investigate further is how power relations between students are established and conserved through the use of aesthetic judgments in HCS, especially in more diverse groups of students than those of this study. Finally, the analysis of aesthetic judgments as nonverbal actions opens up for new ways of exploring meaning-making processes in relation to embodiment and tacit knowing. This research is relevant to cultivate within HCS as well as other educational contexts, both formal and informal.

Conclusions

By using PEA in a new context, this empirically driven study shows how aesthetic experiences are integral to and important in students' meaning-making processes during cooking. The applicability of PEA in investigating aesthetic experiences and meaning-making is thereby confirmed and widened.

Expressed as judgments, aesthetic experiences play a role in establishing power relations between students, entail social and normative values, and influence the "tacit knowing" of cooking. Through analyzing aesthetic judgments used in formalized cooking practices, the continuous element of the experiences became clear, as aesthetic experiences from previous encounters were reactualized and directed the students' continued actions. By providing vivid illustrations of how aesthetic experiences are involved in meaning-making in the HCS classroom, this paper may serve as inspiration for practicing HCS teachers in their planning, undertaking, and evaluation of lessons involving cooking.

References

- Andersson, J., & Östman, L. (2015). A transactional way of analysing the learning of 'tacit knowledge'. *Interchange*, 46(3), 271-287.
doi: 10.1007/s10780-015-9252-8
- Bohm, I., Lindblom, C., Åbacka, G., & Hörnell, A. (2016). 'Don't give us an assignment where we have to use spinach!': food choice and discourse in home and consumer studies. *International journal of consumer studies*, 40(1), 57-65. doi: 10.1111/ijcs.12213
- Bourdieu, P. (1984/2013). *Distinction: A social critique of the judgement of taste*. New York: Routledge.

- Bourdieu, P. (2005/2017). Taste of Luxury, Taste of Necessity. In C. Korsmeyer (Ed.), *The Taste Culture Reader. Experiencing Food and Drink* (2. ed., p. 54-59). Oxford: Berg Publishers.
- Brunosson, A., Brante, G., Sepp, H., & Mattsson Sydner, Y. (2014). To use a recipe—not a piece of cake. Students with mild intellectual disabilities' use of recipes in home economics. *International journal of consumer studies*, 38(4), 412-418. doi: 10.1111/ijcs.12109
- Caraher, M., & Lang, T. (1999). Can't cook, won't cook: A review of cooking skills and their relevance to health promotion. *International Journal of Health Promotion and Education*, 37(3), 89-100. doi: 10.1080/14635240.1999.10806104
- Charters, S., & Pettigrew, S. (2005). Is wine consumption an aesthetic experience? *Journal of Wine Research*, 16(2), 121-136. doi: 10.1080/09571260500327663
- Dewey, J. (1929/1984). The quest for certainty: A study of the relation of knowledge and action. In J. A. Boydson (Ed.), *The Later Works (1925-1953)* (4. ed.). Carbondale: Southern Illinois University Press.
- Dewey, J. (1934/2005). *Art as experience*. New York: Perigee Books.
- Dewey, J. & Bentley, A. F. (1949/1976). *Knowing and the Known*. Connecticut: Praeger Publishers Inc.
- Dickie, G. (1971). *Aesthetics: An Introduction*. New York: Pegasus.
- Fine, G. A. (1985). Occupational aesthetics: how trade school students learn to cook. *Urban Life*, 14(1), 3-31. doi: 10.1177/0098303985014001001
- Fine, G. A. (1996). *Kitchens. The culture of restaurant work*. Berkley: University of California Press.
- Flewitt, R. (2006). Using video to investigate preschool classroom interaction: education research assumptions and methodological practices. *Visual communication*, 5(1), 25-50. doi: 10.1177/1470357206060917
- Freeland, C. (2012). Aesthetics and the senses: Introduction. *Essays in philosophy*, 13(2), 1.
- Gisslevik, E., Wernersson, I., & Larsson, C. (2017). Teaching sustainable food consumption in Swedish Home Economics: a case-study. *International Journal of Home Economics*, 10(2), 52-63.
- Gisslevik, E., Wernersson, I., & Larsson, C. (2018). Pupils' participation in and response to sustainable food education in Swedish home and consumer studies: A case-study. *Scandinavian Journal of Educational Research*, 1-20. doi: 10.1080/00313831.2017.1415965
- Granberg, A. (2018). *Koka sjuda steka. Ett sociokulturellt perspektiv på matlagning i hem- och konsumentkunskap på grundsärskolan*. (Doctoral thesis, Uppsala University, Uppsala). Retrieved from: <http://uu.diva-portal.org/smash/get/diva2:1236617/FULLTEXT01.pdf>
- Hamza, K. (2010). *Contingency in high-school students' reasoning about electrochemical cells: Opportunities for learning and teaching in school*

- science. (Doctoral thesis, Stockholm University, Stockholm). Retrieved from: <http://www.diva-portal.org/smash/get/diva2:279988/FULLTEXT01.pdf>
- Heath, C., Hindmarsh, J., & Luff, P. (2010). *Video in qualitative research*. Sage Publications.
- Hjälmeskog, K. (2000). "Democracy begins at home". *Utbildning om och för hemmet som medborgarfostran*. (Doctoral thesis, Uppsala University, Uppsala). Retrieved from: <http://uu.diva-portal.org/smash/get/diva2:165995/FULLTEXT01.pdf>
- Hofverberg, H., & Maivorsdotter, N. (2018). Recycling, crafting and learning –An empirical analysis of how students learn with garments and textile refuse in a school remake project. *Environmental Education Research*, 24(6), 775-790. doi: 10.1080/13504622.2017.1338672
- Höijer, K., Fjellström, C., & Hjälmeskog, K. (2013). Learning space for food: exploring three Home Economics classrooms. *Pedagogy, Culture & Society*, 21(3), 449-469. doi: 10.1080/14681366.2013.809374
- Jaffe, J., & Gertler, M. (2006). Victual vicissitudes: Consumer deskilling and the (gendered) transformation of food systems. *Agriculture and Human Values*, 23(2), 143-162. doi: 10.1007/s10460-005-6098-1
- Janhonen, K., Torkkeli, K., & Mäkelä, J. (2018). Informal learning and food sense in home cooking. *Appetite*, 130, 190-198. doi: 10.1016/j.appet.2018.08.019
- Jakobson, B., & Wickman, P-O. (2008). The Roles of Aesthetic Experience in Elementary School Science. *Research in Science Education*, 38(1), 45-65. doi: 10.1007/s11165-007-9039-8
- Korsmeyer, C. (2002). *Making Sense of Taste: Food and Philosophy*. New York: Cornell University Press.
- Korsmeyer, C. (2017). Taste and other senses: Reconsidering the foundations of aesthetics. *The Nordic Journal of Aesthetics*, 26(54). doi: 10.7146/nja.v26i54.103078
- Lang, T., Caraher, M., Dixon, P., & Carr-Hill, R. (1999). *Cooking skills and health*. London: Health Education Authority.
- Lidar, M., Almqvist, J., & Östman, L. (2010). A pragmatist approach to meaning making in children's discussions about gravity and the shape of the earth. *Science Education*, 94(4), 689-709. doi: 10.1002/sce.20384
- Lidar, M., Lundqvist, E., & Östman, L. (2006). Teaching and learning in the science classroom: The interplay between teachers' epistemological moves and students' practical epistemology. *Science education*, 90(1), 148-163. doi: 10.1002/sce.20092
- Lindblom, C., Erixon Arreman, I., & Hörnell, A. (2013). Practical conditions for Home and Consumer Studies in Swedish compulsory education: a survey study. *International Journal of Consumer Studies*, 37(5), 556-563. doi: 10.1111/ijcs.12027

- Lindblom, C., Erixon Arreman, I., Bohm, I., & Hörnell, A. (2016). The importance of time frames in Swedish Home and Consumer Studies. *International Journal of Consumer Studies*, 40(3), 299-308.
doi: 10.1111/ijcs.12256
- Luff, P., & Heath, C. (2012). Some 'technical challenges' of video analysis: social actions, objects, material realities and the problems of perspective. *Qualitative Research*, 12(3), 255-279.
doi: 10.1177%2F1468794112436655
- Maivorsdotter, N. (2012). *Idrottsutövandets estetik: en narrativ studie om meningsskapande och lärande*. (Doctoral thesis, Örebro University, Örebro). Retrieved from: <http://oru.diva-portal.org/smash/get/diva2:458039/FULLTEXT02.pdf>
- Maivorsdotter, N., & Quennerstedt, M. (2012). The act of running: a practical epistemology analysis of aesthetic experience in sport. *Qualitative research in sport, exercise and health*, 4(3), 362-381.
doi: 10.1080/2159676X.2012.693528
- National Agency for Education. (2018). *Curriculum for the compulsory school, preschool class and school-age educare. Revised 2018*. Retrieved from: https://www.skolverket.se/sitevision/proxy/publikationer/svid12_5dfee44715d35a5cdfa2899/55935574/wtpub/ws/skolbok/wpubext/trycksak/Blob/pdf3984.pdf?k=3984
- National Food Agency. (2015). *Mat för alla sinnen. Sensorisk träning enligt SAPERE-metoden*. Retrieved from: https://www.livsmedelsverket.se/globalassets/publikationsdatabas/broschyrrer/sapere_livsmedelsverket_a4-mindre.pdf
- Neumark-Sztainer, D., Story, M., Perry, C., & Casey, M. A. (1999). Factors influencing food choices of adolescents: findings from focus-group discussions with adolescents. *Journal of the American Dietetic Association*, 99(8), 929-937. doi: 10.1016/S0002-8223(99)00222-9
- Piqueras, J., Hamza, K. M., & Edvall, S. (2008). The practical epistemologies in the museum: A study of students' learning in encounters with dioramas. *Journal of Museum Education*, 33(2), 153-164.
doi: 10.1080/10598650.2008.11510596
- Robson, C., & McCartan, K. (2016). *Real World Research*. New York: John Wiley & Sons.
- Rogoff, B. (1995) Observing sociocultural activity on three planes: Participatory appropriation, guided participation, and apprenticeship. In James Wertsch, Pablo del Rio and Amelia Alvarez (eds.) *Sociocultural Studies of Mind*. (pp. 139-164). Cambridge: Cambridge University Press.
- Rozin, E. (2000). The role of flavor in the meal and the culture. In H. L. Meiselman (Ed.), *Dimensions Of The Meal: Science, Culture, Business, Art*. (p. 134-142). Maryland: Aspen Publishers Inc.

- Sullivan, S. (2002). Pragmatist feminism as ecological ontology: Reflections on *Living across and through skin*. *Hypatia*, 17(4), 201-217.
doi: 10.1111/j.1527-2001.2002.tb01081.x
- Sund, L., Quennerstedt, M., & Öhman, M. (2019). The embodied social studies classroom – Repositioning the body in the social sciences in school. *Cogent Education*, 6(1), 1-21.
doi: 10.1080/2331186X.2019.1569350
- Swedish Research Council. (2017). *Good Research Practice*. Retrieved from: <https://publikationer.vr.se/en/product/good-research-practice/>
- Tull, A. (2018). *Food and Cooking Skills Education: Why teach people how to cook?*. New York: Routledge.
- Warde, A. (2016). *The Practice of Eating*. Cambridge: Polity Press.
- Wickman, P-O. (2006). *Aesthetic experience in science education: Learning and meaning-making as situated talk and action*. New York: Routledge.
- Wickman, P-O. (2004). The practical epistemologies of the classroom: A study of laboratory work. *Science Education*, 88(3), 325-344.
doi: 10.1002/sce.10129
- Wickman, P-O., & Östman, L. (2002). Learning as discourse change: A sociocultural mechanism. *Science Education*, 86(5), 601-623.
doi: 10.1002/sce.10036
- Wolfson, J. A., Bostic, S., Lahne, J., Morgan, C., Henley, S. C., Harvey, J., & Trubek, A. (2017). A comprehensive approach to understanding cooking behavior: Implications for research and practice. *British Food Journal*, 119(5), 1147-1158. doi: 10.1108/BFJ-09-2016-0438
- Yin, R. K. (2017). *Case study research and applications: Design and methods* (6. ed.). Thousand Oaks: Sage publications.
- Östman, L. & Almqvist, J. (2011). What do values and Norms Have to Do with Scientific Literacy? In: Cedric Linder, Leif Östman, Douglas A. Roberts, Per-Olof Wickman, Gaalen Erickson & Allan MacKinnon (eds.) *Exploring the Landscape of Scientific Literacy*. (pp. 160-175). London: Routledge.

Appendix 1. Overview of the observations

Rec. no.	Minutes of recording	Lesson no.	Lesson theme	Dish cooked	Teacher (fictitious names)	Students (fictitious names)
1	50 min	1	Cooking techniques, frying	Breaded fish with boiled potatoes	Birgit	Fred Carl
2	55 min	1	Cooking techniques, frying	Breaded fish with boiled potatoes	Birgit	Caroline Eddie
3	50 min	2	Peer evaluation	Omelet with tomato salad	Birgit	Fred Carl
4	49 min	2	Peer evaluation	Omelet with tomato salad	Birgit	Caroline Eddie
5	52 min	3	Organizing the working procedure	Crêpes stuffed with stew	Birgit	Fred Carl
6	52 min	3	Organizing the working procedure	Crêpes stuffed with stew	Birgit	Caroline Eddie
7	57 min	4	Environmentally friendly food	Lentil soup with bread	Annika	Shirin Sophie
8	56 min	4	Environmentally friendly food	Lentil soup with bread	Annika	Oscar Jim
9	24 min	5	Eat SMART	Noodle wok	Annika	Shirin Sophie
10	31 min	5	Eat SMART	Noodle wok	Annika	Oscar Jim
11	45 min	6	To boil rice	Sausage stew with rice	Birgit	Marie Daniel
12	47 min	6	To boil rice	Meat stew with rice	Birgit	Fred Caroline
13	23 min	7	Preparations for examination	Gino	Birgit	Marie Daniel
14	23 min	7	Preparations for examination	Gino	Birgit	Fred Caroline
15	82 min	8	Baking with yeast	Cinnamon buns	Annika	Jennie Victor
16	81 min	8	Baking with yeast	Cinnamon buns	Annika	Oscar Jim
17	50 min	9	Creative cooking, varying of meals and nutrients	Soup with optional ingredients	Annika	Jennie
18	49 min	9	Creative cooking, varying of meals and nutrients	Soup with optional ingredients	Annika	Oscar Jim
19	54 min	10	Cooking techniques, use of oven	Pasties	Annika	Jennie Victor
20	53 min	10	Cooking techniques, use of oven	Pasties	Annika	Oscar Jim
21	54 min	11	Precision chopping, hygiene	Sushi	Birgit	Fred Daniel

Rec. no.	Minutes of recording	Lesson no.	Lesson theme	Dish cooked	Teacher (fictitious names)	Students (fictitious names)
22	49 min	11	Precision chopping, hygiene	Sushi	Birgit	Carl Caroline
23	50 min	12	Breading, frying, nutrition and iron	Breaded fish with mashed potatoes	Birgit	Fred Daniel
24	47 min	12	Breading, frying, nutrition and iron	Breaded fish with mashed potatoes	Birgit	Carl Caroline
25	31 min	13	Preparations for examination	Berry pie	Birgit	Fred Daniel
26	26 min	13	Preparations for examination	Berry pie	Birgit	Caroline Marie
27	41 min	14	Creative cooking	Noodle wok	Annika	Shirin Sophie
28	40 min	14	Creative cooking	Noodle wok	Annika	Jennie Victor
29	38 min	15	Homemade vs. ready-to-eat	Leek soup	Birgit	Fred Daniel
30	39 min	15	Homemade vs. ready-to-eat	Leek soup	Birgit	Carl Caroline
31	52 min	16	Homemade vs. ready-to-eat	Fish gratin	Birgit	Caroline Daniel
32	51 min	16	Homemade vs. ready-to-eat	Fish gratin	Birgit	Marie Carl
33	64 min	17	Home baked vs. prefabricated bread	Bread	Birgit	Caroline Daniel
34	63 min	17	Home baked vs. prefabricated bread	Bread	Birgit	Marie Carl
35	10 min	18	Creative cooking without recipe, plate model	Varied ingredients	Birgit	Marie Daniel
36	56 min	18	Creative cooking without recipe, plate model	Varied ingredients	Birgit	Carl Caroline