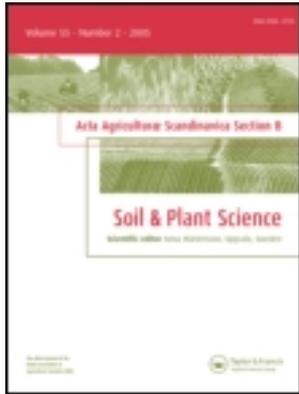


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### Local public food strategies as a social innovation: early insights from the LOMA-Nymarkskolen case study

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## PERSPECTIVE

# Local public food strategies as a social innovation: early insights from the LOMA-Nymarkskolen case study

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Growing concern about issues surrounding climate change and the environment has led to a recent focus on local food strategies and a change in consumer buying behaviour towards food in the European Union (EU). Accordingly, there has been an increasing demand for foods from local and regional sources as well as from sustainable production regimes. Although this trend seems to be driven primarily by household consumption, public food procurement has also begun to adopt this idea and has taken on a new and more critical view on its sourcing strategies. Such food strategies seem to offer benefits for local farmers and food processors. At the same time, they may also offer opportunities to develop new educational and health-promoting links between the actors of public food systems, such as young people in schools, and farmers. This contribution to “quality of life” is often referred to as social innovation. This is primarily because it improves social capital by bringing together new actors to address important societal challenges. Achieving sustainable school food systems is considered a challenge, and research-based knowledge is in demand in relation to multi-component interventions. This perspective article reports on early insights from a pilot case within the local food project LOMA-Nymarkskolen in Svendborg (DK). The findings of this project are used to evaluate whether local food strategies are an effective method of social innovation. The pilot case is a whole school, workshop and curriculum-based intervention in which 6th-grade students participate in cooking their own school food for one week using products from local farms. Data from the pilot case indicate that local food strategies help establish new educational links between schools and local producers and thereby contribute to students’ food literacy, health and quality of life in a way that qualifies to the notion of social innovation.

**Keywords:** action competence; communities of practice; social innovation; health-promoting schools; organic food; food literacy; LOMA local food; social inclusion; education

## Introduction

School food has been moving in a new direction in recent years, fuelled by a call for healthier and more sustainable eating and increased standards for the quality of school food (Morgan & Sonnino 2008; Sonnino 2010). In the UK particularly, where school meals form an integral part of school life, this has resulted in new solutions, such as the development of concepts for the promotion of healthy foods in school and linking these to local food production (Carmarthenshire 2004; Jones & Dailami 2012). In Denmark, the development of school food has followed a different trajectory.

Since the provision of food in schools has never formed an integral part of the school day, moves to develop the school food system have usually relied on commitment and innovation at the local level and from local champions rather than, e.g., higher public standards. Schools and municipalities have, in some cases, made decisions on the provision of food (Sabinsky et al. 2010), such as on the selling of food items in tuck shops and kiosks, or they have been part of more ambitious strategies in which food provision is a component of more holistic public health nutrition initiatives (He & Mikkelsen 2009).

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With increasing rates of obesity among adolescents as a result of unhealthy eating patterns (National Health Profile 2011), Danish municipal authorities and the state are increasingly exploring the potentials of publically provided school food services as a means to address this challenge. In doing so, it has been widely recognised that such food services should not only address food provision but should also include curricular activities in order to integrate educational and food-service components (Benn et al. 2010; Strassner et al. 2010; Mikkelsen 2011). It is also recognised that such a holistic approach – often referred to as a whole-school approach (Morgan & Sonnino 2008) – needs to adopt a participatory element. The LOMA-Nymarkskolen Project (LNP) has been developed in accordance with this background as a coordinated development and research project. In a wider perspective, one of the objectives of this research was to produce phronetic knowledge of how to address and act on social challenges within the context of school food (cf. Flyvbjerg et al. 2012).

At Nymarkskolen in Svendborg, where LNP is taking place, there is currently no provision of school meals. The 700 secondary-level students come from all regions in the municipality and from both disadvantaged and advantaged families. In Svendborg, a municipal report on health among youth was released in 2011 and highlighted challenges with the obesity problem, similar to those observed at the national level (Department of Health, Svendborg 2011). These findings, in combination with a need to restructure the school system in the municipality, constituted the major background for the municipal decision on implementing a LOMA meal system; LOMA is an abbreviation of LOkal MAd = local food. The LOMA meal system applies a local approach to cooking, learning and food-sourcing strategies and as such it represents a much more ambitious approach to school food compared to what is normally found in Danish schools. In this sense, school food is considered here an important societal challenge, and one that Danish society has not focused on sufficiently in the past. The LOMA meal system will be facilitated by a combined learning and production kitchen that is scheduled to be ready for deployment by September 2013 (Svendborg Municipality 2011).

LNP encompasses a number of components that have been negotiated by the involved actors. The components have been developed into an action plan that serves as a roadmap for actions and investments at the municipal level. A new professional production kitchen with the daily capacity of producing food for 600 persons forms the foundation of the project. This includes a physical learning space in the

kitchen, where classes can participate in daily cooking and food-related learning activities together with professionals as part of curriculum activities. In the canteen, students, teachers and administrative staff will have the option as a contribution to consume a healthy meal and share their belongingness to an eating group (cf. Lewin 1997). In addition, a public sourcing strategy that includes local (and organic) farms as a learning space during field excursions will be implemented. Finally, an aim of the new meal system is to provide school food in a sustainable way with the least negative impact on the environment.

Since LNP began, researchers from the funding partners Aalborg University MENU (AAU) and University College Lillebelt (UCL) have been monitoring its progress. The objective has been to explore how LNP might be established and how it, as a social innovation, might contribute to health promotion. In accordance with the participatory approach, municipal advisors and teachers from Nymarkskolen have participated as co-researchers. Moreover, bachelor students (UCL) and master students (AAU) have participated in the process of developing new educational materials, which integrate farm visits and food-related curriculum activities at secondary level in LNP. In addition to this, students from secondary level at Nymarkskolen have been involved, e.g. in decisions on menus, distribution of work, themes for cooking weeks and evaluation in general.

### ***LOMA and public food procurement***

LNP has progressed through the initial idea stages, to the stage of political decision, and finally to having been adopted, financed and launched in its first stages by the Municipality of Svendborg. Simultaneously, municipal tendering procedures have been developed in order to make the procurement of local food products possible for the school within current EU legislation. Challenges have included ensuring that the strict requirements fit with the abilities of local producers whilst meeting the requirement for equal competition within the common EU market (cf. Mikkelsen & Ruge 2012).

### ***LOMA pilot projects***

While the facilities for the permanent meal system are being built, several pilot projects have been conducted in existing facilities during 2012–2013 in order to test and train central elements of the concept and also to facilitate ownership to the changes among students and teachers. The pilot cases have been investigated through interviews and questionnaires; see display, Table 1. Early insights from the first pilot case, involving 6th-grade students

Table 1. Types of workshops and data collection in the LOMA pilot cases for 6th, 7th and 8th grade (Ruge 2012).

Type of workshop:	LP6	LP7	LP8
	02-2012 one × five days Students: 80 Teachers: 8	01-2013 two × five days Students: 200 Teachers: 12	01-2013 two × five days Students: 200 Teachers: 12
Cooking a common meal	x	x	x
Excursions	x	x	x
Science	x	x	x
Physics	x	x	x
Language, English	-	x	-
Language, Danish	-	x	-
It, Media	x	x	x
Type of data collection	LP6	LP7	LP8
Observations	x	x	x
Video, photo	x	x	x
Interviews, students	x	x	x
Interviews, teachers	-	x	x
Questionnaire, students	x	x	x
Questionnaire, teachers	x	x	x

(LP6), are presented under results in the current perspective paper and the analysis focuses on how LP6 functions as a social innovation, creating food literacy, health outcomes, action competence, “sense of coherence” and social inclusion.

### Conceptual foundation

According to Fleischer (2009), there is some evidence to suggest that publically provided school food improves dietary patterns of students. School lunches can especially be beneficial for students who have a poor diet to begin with. This may be highly relevant in the LNP intervention because one out of ten 6th-grade students at Nymarkskolen have reported not eating any food at all during the school day. On this background it is hypothesised that a possible benefit of the new meal system might be that a school meal would prevent students becoming too hungry and therefore increase their motivation to learn. In this sense, providing a school meal will also contribute to reduction in social inequity by providing more disadvantaged students better opportunities to learn and achieve action competence.

Innovative approaches to school food politics and the potential contribution to healthier diets for children and young people have received growing attention internationally (Robert & Weaver-Hightower 2011). Such new approaches increasingly include accompanying measures and strategies, characterised as socially innovative. Alternative food-sourcing strategies and participatory meal production for learning about food in school are examples of such social innovation. Findings within learning and health promotion research indicate that participatory strategies can increase positive out-

comes related to food literacy and action competence from a public health nutrition perspective (Benn et al. 2010; Simovska & Jensen 2009; Green & Tones 2010; Lichtenstein & Ludwig 2010; Pendergast et al. 2011). In 1998, the World Health Organization produced guidelines for participatory approaches in school settings, based on the Ottawa Charter (1986). Additionally, the Shape Up project in 2006 developed a new method outlining how to work with children and youth on health promotion in a participatory way (Simovska et al. 2006). This methodology, with regard to the IVAC model, Investigation, Vision, Action and Change, will constitute part of the methodological framework for the development of LNP. When using this approach, one important question is whether students will merely participate in cooking activities or if they will actively influence decisions related to cooking as well as learning activities. In other words, at which step of the “ladder of participation” (Hart 1997) will the participation take place?

The research activities also build on an action and participatory social research approach. This approach assumes that development of interventions can be shaped in a way that is for practitioners as well as for researchers and that the research and intervention are shaped through negotiations, decisions, actions and evaluations (Argyris et al. 1985).

The efforts directed to increase social inclusion is an example of such negotiations taking place in LNP. This issue is of high importance in modern school environments, due to the increasing challenge of including students with special needs, e.g., dyslexia, diagnosis of ASD (Humphrey 2008), Danish as second language and other social conditions.

The creation of heterogeneous and outreaching communities such as, for instance, LNP is believed to be able to establish and enhance new relations between students and between teachers and students and consequently contribute to the development of what Putnam (2000) refers to as “bridging social capital”. This capital should be understood as opposed to “bonding social capital”, which is believed to link people with similar backgrounds in a social way. According to Schulz (2009), in many cases a bonding social capital approach is assumed in Danish institutions. For instance, when teachers or pedagogs create working groups by teaming up “alike” children and youth instead of doing the opposite. One of the negative consequences of this is that separate sub-communities are often created in the group and this will in turn tend to reduce the will to include, to help and to understand peers with different challenges and social backgrounds (Putnam 2000).

To utilise the integrated and multi-component approach that characterises the LNP intervention, it is also necessary to apply insights from the growing number of foodscape studies within Public Health Nutrition. According to Mikkelsen (2011), a foodscape can be understood as “the physical, organizational and sociocultural space in which clients/guests encounter meals, food and food-related issues, including health messages”. The notion of foodscape builds on the idea that food systems are complex and that it is necessary to look at the interrelations between humans, space and foods in the socio-cultural matrix in which they are embedded to fully understand the potential for change. A school foodscape is a similar idea to the notion of school food culture (Roos 2009). But “culture” emphasises a more value-based approach as seen in Sweden or Finland, where provision of food is for all students, a system that is deeply rooted historically and forms an integral part of the school system. Such a national public school food culture does not exist in Denmark, where establishment of school meal systems are mostly dependent on local public initiatives. We therefore prefer to use the more flexible metaphor of the “captive school foodscape” to understand and explore the experimental LNP case.

Additionally, to be able to include the local agri-food surroundings and the sourcing of local food, we aim to apply a more comprehensive methodological framework that combines the ideas of novel public food procurement approaches, participatory learning strategies and local public food strategies and school foodscapes. Such an analytical framework is, e.g., provided by Lamine et al. (2012), who describe the development of integrated, territorial modes of agri-food governance. According to Lamine et al., these innovative, integrated and territorial strategies ap-

pear to have the potential to address important social challenges, such as weaknesses in the local food economy, lack of social inclusion, poor health and a lack of food literacy.

Such strategies seem to qualify for the notion of social innovation according to the definition by the European Union Commission (EU Commission 2011). This theoretical approach recognises that the reduction of poverty and improved employment are not automatic effects of economic growth. Structural weaknesses have been revealed along with the recent financial crisis and have created a renewed focus on the social dimensions of the EU. Following this, lessons have been learned which imply that: “The time has come to try new ways of bringing people out of poverty and promoting growth and well-being not only for, but also with citizens” (EU Commission 2011, p. 7).

By emphasising the need for participatory approaches when attempting to mobilise public creativity and to develop new solutions for pressing social issues, the EU commission builds on the same kind of insight that Wenger (1998) introduced with the ideas of “Communities of Practice” (CoP). This was defined as: “Groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly” (Wenger 1998). The concept of CoP has been applied in various organisations, e.g., in companies and associations, where it can result in new knowledge networks and at the same time address important challenges.

Having Wenger’s social learning theory as a point of departure we will refer to the LNP CoP as an important community of practice, a loosely coupled social system with relevant actors, performing as an informal work group, glued together by a shared vision of developing a new and socially including learning space in which the food activities play a decisive role. This social system constitutes a pivotal point in the LNP casestudy in order to capture how the CoP is functioning during the particular phases of the LNP where it is urgent to invent new ways of thinking and acting, as well as in other phases of LNP, where members cross the boundaries of the CoP and resume their more formal function as, e.g. “project manager”, referring to the municipal director or “teacher in science” referring to the head of school (cf. Wenger 2000).

## Methods

### *Mixed methods*

The research question of the intervention is “how can LP6 contribute to health promotion and social

inclusion and thereby be designated as a social innovation?” The assumption is that LP6 as school foodscape can be designated as a social innovation, because it contributes to health promotion by increasing students’ action competence, food literacy and contributing to social inclusion. Moreover, it is assumed that “sense of coherence” and “quality of life” are enhanced by the development of bridging social capital through new social learning systems and educational links.

Research on LNP is carried out as a descriptive, single-case study (cf. Yin 2009). The research is currently in its explorative stage, where the challenge is to understand and obtain insight into the social system of students, practitioners at the school level, municipal policy level and the food suppliers. With this in mind, the study aims to produce basic knowledge and insights that can be used as a foundation for building, developing and scaling up the intervention. The approach is based on primarily qualitative methods that are context-sensitive and includes interviews, narrative analysis, observations and visual (IT-assisted) methods that enable interpretative triangulation in order to answer the research questions. In a mixed-methods approach, data from questionnaires will be collected in order to supply the qualitative methods with quantitative methods (Kvale 2007). In the case study protocol, the three LNP pilot projects are included as embedded cases and all of them applied the workshop as a frame for interdisciplinary teaching.

See display with overview of pilot projects and data collection in Table 1.

As an example of an interpretative triangulation of results from LP6, the combination of answers from a questionnaire with observations and analysis of visual data can be mentioned. This approach offers a possibility for investigation and early insights on issues that will be useful for the development and further research design in an ongoing process. Each pilot project has been centred on curricular subjects related to LNP – for instance: Cooking school food for all participants (home economics), fermentation processes (science), field trips to local farms (out of

school learning), collages of student photos (IT & media), and orienteering in the neighbourhood (physics). Activities were carried out within existing facilities at the school.

### *Logic model*

To analyse the logic model of the LOMA-Nymarkskolen intervention, four dimensions of interconnected actions can be identified: local cooking (D1), local learning (D2), local production of food (D3) and local public food procurement (D4). The content of each dimension is described in Table 2.

It is the relations between the agents and actions in the four dimensions – the ties between the nodes – that facilitate social innovation as an effect of LNP. The assumption is that these relations are supportive of social inclusion in the local community as well as within the group of actors. It is important to mention that in order for this type of dynamic to work, social capital must be available, which is normally generated through a preliminary record of trust and mutual cooperation between actors. Another feature of the logic model is that it provides a frame for an understanding of how the LNP CoP constitutes one of the driving forces of the LOMA intervention. In each of the five dimensions, individuals from public and private sector work together within LNP in informal and formal work-groups. Among these participants are students, teachers, bachelor students (UCL), politicians, administrative staff, municipal staff, local farmers and social scientists. In the following paragraph, findings and early insights from the first pilot project, LP6, will be presented.

### *The LP6 intervention*

In the organisation of LP6, 80 students and 12 teachers participated in food-related learning activities for 5 days. Students were divided into five groups across their normal classes and worked in shifts in the five different workshops. The cooking workshop took place in the classroom of home economics. The prepared food was transported by

Table 2. The four dimensions of actions in LNP (D1, D2, D3, D4).

Dimension	Activity
D1. Local cooking	Local cooking in a local food-service production unit and a canteen, based on a student participation meal system
D2. Local learning	Local learning in the combined cooking- and learning foodscape in the space made up by the school kitchen, the curricula, the classroom and the local farms
D3. Local production of food	Establishing a demand for local food, thus supporting the local food economy by substituting imported foods for locally sourced (organic) food products from local farms
D4. Local public food procurement	Developing the procurement routines by creating a public tendering process that has local food as one of the outcomes

the students on tables fitted with wheels to the classroom, which was serving as the canteen for 100 students and teachers during the week. The other workshops took place in ordinary classrooms, media-center or by the local producers. According to the logic model of LPN the assumption is that the integration and simultaneity of the activities (D1–D4) in the implemented workshops led to the assumed effects in LP6. To investigate this by triangulation, various sources were used for data collection, including the cooking workshop, the science workshop and the field trips. Also, teachers and researchers made observations while they were working together with the students.

### **Data collection**

A video was recorded during selected parts of the week, mainly from the workshop in the kitchen, in the ad hoc canteen in the hall and on the field trips. The video photographer used an ethnographic action-research approach, whereby he was sometimes present as a member of the group and “walking along” with the students as he was video recording (Atkinson et al. 1999). A video with some of the recordings after LP6 is accessible at the internet (Ruge & Kromann 2012); however, due to the editing and aestheticising technique, only the original recordings will be included as research data.

A questionnaire with the students was also conducted via the intranet of the school before and after LP6 and developed by teachers and researchers in a holistic approach. See the questions posed to the students after LP6 in the supplementary material. The intention was to investigate the development in knowledge, attitudes and competences among the students. To obtain this, the questionnaire mixed questions regarding factual knowledge of “where-the-food-comes-from” (food literacy), with questions regarding students’ own perceptions of the activities. To minimise bias and increase reliability and validity, advice has been taken from senior scientists regarding planning of the questionnaire, including the necessary adjustments for LP7, LP8 and the forthcoming last intervention in October 2013. The advice regards, e.g. design of questions for respondents and ways to increase the response rate. Not all students answered the questions made available on the school intranet despite encouragement by teachers, as well as parents being asked to provide assistance from home. This apparent weakness has resulted in the recognition among the researchers that a higher degree of adult supervision in school will be optimal if questionnaires are to be used for further data collection. In addition to this, the conduction of questionnaires has raised aware-

ness to the fact that this kind of evaluation is not common praxis in the school and that some teachers do not find it important for students to respond. Focus group interviews with teachers may shed more light on this issue of evaluation. However, taking in consideration the multitude of factors that impact students’ answers, the forthcoming triangulation of results from multiple sources will be of most importance in this casestudy (cf. Yin 2009).

### **Results**

The assumption was that LP6 as a school foodscape could be designated as a social innovation, by improving food literacy and action competence, promoting health and social inclusion through local food strategies by and establishment of educational links with farmers. Moreover, it was assumed that “sense of coherence” and “quality of life” would be enhanced by the development of bridging social capital through new social learning systems.

### **Food literacy**

The assumption of the research question is that LP6 as a social innovation contributed to health promotion by increasing students’ action competence and food literacy. The video recordings show mostly very enthusiastic students collaborating in cooking activities, on fieldtrips and in science workshops (D1–D3). This impression is supported by the answers given in the questionnaire by the students after LP6. In this, students were asked about their experience of participation and other reflections. The majority of the students ( $n = 64 = 80\%$ ) who did respond stated that they had been very fond of cooking and eating together on each day of the week. A large majority also stated that the project had increased their willingness to cook at home.

Furthermore, students appeared quite surprised that food made by children was of “such a pleasant taste”. These observations are in accordance with information from the questionnaire which indicate that only a smaller number of students were familiar with participating in cooking activities, at home or in the school, prior to LP6. Taking into account that the methodological approach was still of an exploratory kind, there seems to be a convergence in evidence that improved cooking skills (as part of food literacy) was an effect of the intervention, thus contributing to promotion of action competence and food literacy. Contribution to reduction of health inequality can also be suggested, but not confirmed, in this study due to the limited period of time. An interesting observation from the teacher leading the workshop on field trips was that the level of under-

standing of “where-the-food-comes-from” was very low prior to the intervention. This observation is an indication of increased food illiteracy that may make young people more vulnerable to misleading information about food from advertisements on TV and on the Internet (Lichtenstein & Ludwig 2010). Answers in the questionnaire indicated an increased level of knowledge after LP6 on these subjects – however, this result accounts only for the 80% of students who answered the questions, which weakens the strength of evidence.

### ***Participation and action competence***

In addition to improved action competence, students also found that they had been able to influence the menu, as an effect of the first preparatory tasks for the groups, which was to decide on a dish for *their* cooking day. However, in the survey students also stated that they would have liked even more influence on the preparations for the pilot project. With a busy teacher-schedule, this request may be quite challenging in future stages of the project. Still, the question “do students have a say or are they just participating?” will remain a focus area in the research for the next scheduled pilot projects for 7th (LP7)- and 8th (LP8)-grade students, because participation and empowerment are expected to be the prerequisites for achieving an effect from health-promoting efforts.

Regarding development in knowledge as part of the action competence, the teacher in charge of the science workshop during LP6 reported that the academic accomplishment in interdisciplinary teaching activities was “reasonably good”. Working on the theme of fermentation, students conducted different experiments with yeast, baking powder and bicarbonate, compared the effects and evaluated the biological systems and chemical processes that were involved. The fact that all students had been participating in milling flour and baking bread throughout the week may have contributed to the close to 100% correct answer marks in the question on fermentation processes, that students were asked in the survey by the end of the week. In addition, some of the students had also visited an organic mill and brought flour back to the school for baking bread.

### ***Educational links with farmers***

Regarding LNP as a social innovation, information about activities in D3 and D4 were collected. Observations and video footage showed that local products were in fact purchased for the meals in LP6. The food was collected by the students during

fieldtrips, purchased and brought back to the school, e.g., turnips, potatoes, carrots, wheat, apples, green cabbage and flour. According to the collected data, this activity improved students’ knowledge of issues such as “where flour comes from” and consequently achieved improved food literacy (cooking skills) and action competence (e.g. knowing where to buy fresh vegetables in the local community). In addition to this, students were also operating within a local food strategy that provided the establishment of important educational links between farmers and the end users of this public food system: the students. In this sense, the food-related learning activities contributed to enhanced social capital between individuals, companies and institutions.

### ***Sense of coherence and quality of life***

The pivotal point of this kind of social innovation is the interactions between local cooking (D1) and local learning (D2). In connection to D2, it is relevant to include the effect of establishing new groups across ordinary classes. These heterogeneous groups were made in order to promote new relations, friendship and learning opportunities for students. More than half a year after LP6, a focus group interview was made with some of the students whilst they were watching their own group on video. In addition to more significant reflections from the group, the informants stated that they did not know each other before LP6, but after the project they had become “friends”. This provides an example of how a positive effect of the heterogeneous communities might occur, through new positive relations between students. Furthermore, observations and video data show that the meal situation functioned as an important setting during LP6. One of the key notions here is that of “hosting”: it was the cooking group of the day who was hosting the meal. This approach is in contrast to a system, where teachers or other staff are often hosting the meal, a rather common format in more “service-oriented” school foodscapes. Subsequently, in questionnaires, teachers expressed surprise over the observed positive effects of sitting and eating together with students for 30 minutes each day. For instance, they observed improved social relations between students (belonging to an eating group) and between students and teachers. In connection to this there seem to be strong indications, that the majority of students experienced the LNP pilot with a salutogenic “sense of coherence” (cf. Antonovsky 1993) due to collecting, preparing and eating food from local farms together with classmates and teachers. This theme has also been a subject for further investigation in LP7 and LP8 and preliminary results

from these interventions indicate that students' satisfaction from eating a shared meal is one of the strongest features of the pilot project. Compared to a normal day at Nymarkskolen, where students consume a packed lunch brought from home or often skipping lunch, the daily meal experience during LP6 was regarded satisfactory in both nutritional and social ways, but simultaneously also very exotic for both students and teachers. The results indicate that the LP6 interface constituted students as participants in a social eating and learning environment to a high degree and constituted students as consumers entering the canteen as market space to a low degree.

In connection to LP6 as a learning space, the respondents in the questionnaire for teachers expressed agreement with the coherent structure of the week, which they found provided efficient learning processes. Finally, as part of results, it must also be recognised that not all students reported positive experiences during LP6. For instance, some students found the dishes unattractive and some did not enjoy sharing a meal together with other group members and teachers. These attitudes will be further investigated in the next pilot and in the research design with focus on, e.g. barriers for "belongingness to an eating group". The thoughts and emotions of these students may be key for optimising the effects of the permanent LNP intervention.

### Discussion and perspectives

The application of the logic model on the data from the LP6 pilot indicates that the activities between the dimensions took place in a way that was socially innovative, addressing challenges regarding school food, food literacy health and action competence that are often overlooked in modern society. Moreover, LP6 as a school foodscape seemed to contribute to social inclusion, as the results indicate that bridging social capital and "sense of coherence" were an outcome of this approach. The early findings arising from LP6 as a component of the total and forthcoming LNP case study also indicate that local food strategies as a social innovation are strongly related to social learning processes at different levels. Learning that seem to occur at two levels among the students and among the practitioners in the LNP CoP, as a result of the ongoing interactions between the four dimensions (D1–D4). The complex nature of the LNP school foodscape is evident from the model and also from the number of different stakeholders who are working and learning together. In this perspective, the findings are in line with Wenger (1998) and the work of Blackmore et al. (2012) who emphasise the close links between social

learning and the processes of change that practitioners are involved in.

However, in the upcoming LNP interventions in October 2013, it will be beneficial to study how involvement of students in the change and learning processes can be implemented to a larger extent than in the LP6 school foodscape. By March 2013, students from 7th and 8th grades have been conducting pilots together with teachers, among whom some had never previously worked with food-related processes and cooking as a way to facilitate learning processes. The LP7 and LP8 pilot projects have involved 400 students and 32 teachers at the school, and the CoP is currently making an effort in utilising the results for the final intervention. Analysis of these new data in relation to LNP as a social innovation will be combined with results from the final investigation: the implementation of the permanent LOMA production kitchen, learning space and canteen at Nymarkskolen by September 2013. Interviews will be conducted with students and teacher teams in order to collect data on central issues, but with a stronger focus on why some students feel reluctant to engage in participatory processes and why some teachers may find it hard to facilitate these processes. Interviews will be supported by students' own video recordings as part of the data collection in an effort to reduce the impact of adult videophotographer presence and to enhance the understanding of students' own perceptions. One of the themes will concern the suggested results of how LNP contributes to reduction of inequality in health in a longer-term perspective.

In relation to the preparations for public food procurement in the permanent LNP, the Municipality of Svendborg in late October 2012 invited local farmers and producers to a public meeting. The participants were local farmers, processors and other suppliers with an interest in delivering food to the LOMA-Nymarkskolen kitchen from September 2013. Apart from delivery of food, farmers spontaneously offered their farm as a learning space for the school (D1) and to host fieldtrips, school gardening and even training places for students as part of the cooperation. These expressions of social capital among local farmers gave rise to optimism regarding future cooperation on educational links with the local suppliers. Social capital is expected to be an important component in the next years, particularly when the LNP CoP will be working on the invention of a local public tendering procedure (D4) that must fulfil the food-service objectives and also meet the demand of EU and national public food procurement legislation.

Due to the complexity of the relationship between supply and demand regarding public food

procurement, questions relating to power relations may be more prevalent in the next investigations of the LNP case study as a social innovation. However, this is also where a phronetic approach will be useful for facilitating change within “captive foodscapes” (Mikkelsen 2011) like public schools and other institutions. As social scientists we hope that the dissemination of results from the LOMA-Nymarkskolen casestudy can also be useful in an EU context and the LOMA-Nymarkskolen school foodscape will therefore be subject to further investigation and dissemination in 2013–2014.

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### Supplementary material

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