Danish University Colleges

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Promoting 11 – 13 year old children’s food literacy through a community of practice - case studies from an experiential sensory-based theme course on fish in a school setting

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Introduction
32% of the Danes spend less than 15 minutes on cooking the evening meal, 47% use convenience products as a part of the food preparation, and 18% judge themselves lacking cooking competences.4

The interest in children’s formal food education has increased as a result of concerns with loss of knowledge of food and nutrition, loss of food competences, and an increase in child obesity 1,2

In Danish public schools Family and consumer sciences (FCS) is mandatory for one year in either 4th, 5th, or 6th grade, which makes the school an unique setting for promoting food literacy.

The aim of this study was to explore the construction of community of practice in a school cooking class setting (FCS) as a way of promoting 11-13 year old children’s food literacy.

Methods

Study population
Students aged 11-13 years from 5th - 6th grade. The students came from different public schools on Zealand, Denmark.

Study design
The case studies were part of an interdisciplinary quasi-experimental intervention with a main group (MG) and a control group (CG). A mixed methods research strategy was applied in the form of baseline and follow up participant observations (3 schools, 3 classes from MG, n = 58), questionnaires from MG and CG total respectively, and teacher interviews at follow up (5 schools, n = 5).

Food literacy: Skills, competences, knowledge and self-assigned regarding a functional, interactive, and critical level [1], meaning, taste, wanting and caring, all together as being practical prudent at a personal level but also regarding food and meets together with others in everyday life [2].

Results & Discussion

The school is a social setting and FCS is founded on experiential learning and group activities but this does not automatically lead to the construction of communities of practice (CoP).5

Observations and interviews conducted during this study indicated that community of practice was not evident in the beginning of the cooking program but appeared over time:

- Students started exploring together driven by curiosity
- Students gained a mutual language, developed routines, and skills.
- Students started to negotiate how to fillet the fish and how to use the knife
- Students took mutual responsibility in reaching a goal

In MG at follow up a significant increase in cooking skill was found (p < 0.001), no significant difference was found in the ability to talk about sensory properties (table 1), but a significant difference between genders (p = 0.02) was detected in the ability to talk about food;

- Girls rated themselves higher than boys.

This finding might be due to a greater difference in self-evaluation of cooking skills from baseline to follow up in the girls group: girls mean jumps from 0.1 to 0.99, whereas boys mean only moves from 0.45 to 0.95, indicating a higher self-evaluated cooking skill at baseline than girls, but they are overtaken at follow up by the girls.

Benn (2014) stresses that the learning dimension of food literacy is accomplished by learning through the food.

In the community of practice food literacy and self-efficacy6 was promoted: in working with the fish peer-to-peer learning occurred: evident in the shared repertoire, e.g. observed language used, and in mutual engagement, e.g. in ‘helping each other’ situations. An increase in self-efficacy, was observed e.g. through joint enterprise, e.g. individual confidence to negotiate practices, but also in shared repertoire, e.g. higher confidence in own cooking skills (p < 0.001) (table 2).

Conclusions

- Participation in the FCS cooking program increased food literacy through the construction of communities of practice.
- Learning is both social, e.g. peer-to-peer learning situations, and individual: e.g. through increase in skills and self-efficacy. Not all development was quantifiable measurable in children’s questionnaire responses. Some were detected through observations and teachers’ statements. This underlines the importance of applying mixed methods strategy to research within the field of food literacy.

References
5 Madkulturen, 2. udgave, 2018.

Table 1: Effects of cooking program. Paired t-tests for difference in means at baseline & follow up

<table>
<thead>
<tr>
<th>Group</th>
<th>Variable</th>
<th>t-value</th>
<th>p-value***</th>
</tr>
</thead>
<tbody>
<tr>
<td>MG</td>
<td>I can talk about the food I helped to cook</td>
<td>-0.37 (0.654, -0.173)</td>
<td>0.411</td>
</tr>
<tr>
<td>CG</td>
<td>I can talk about the food I helped to cook</td>
<td>1.16 (0.771, 1.57)</td>
<td>0.173</td>
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</tbody>
</table>

Table 2: Gender differences in effect of cooking program. Unpaired t-tests for difference in means at baseline & follow up

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</tr>
</thead>
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<tr>
<td>Boys</td>
<td>I can tell others about the food I helped to cook</td>
<td>-0.22 (-0.43, 0.00)</td>
<td>0.231</td>
</tr>
<tr>
<td>Girls</td>
<td>I can tell others about the food I helped to cook</td>
<td>0.71 (0.25, 1.22)</td>
<td>0.03</td>
</tr>
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Figure 1: Study design

Figure 2: Identified elements in the three dimensions of CoP

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Acknowledgements
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