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Promoting 11 – 13 year old children’s food literacy through a community of practice - case study 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 competencies. In Danish public schools Family and consum-er 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, Den-
mark.

Study design

The case studies were part of an inter-disciplinary quasi-experimental inter-
vention with a main group (MG) and a control group (CG). A mixed methods re-
search 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).

Organization of cooking program in FCS

MG participated in a 5 week cooking program with fish meeting the official curriculum and learning goal requirements for FCS in 5th – 6th grade (5 x 3 lessons of 45 min.).

Themes: the senses, quality of fresh fish, taste, fillet-
ing, cooking, food history, preservation, sustainability, nutrition etc.

- The students were organized in groups of 3-4.
- They worked with 4 species of fresh fish
- The first 4 blocks were pre-planned with activities, rec-
ipes, and picture-based guides.
- The last block was organized as a “cook off”. The recipe for a dish was to be constructed by the stu-
dents, and the dish would be presented by the groups “Master chef-style”.

Figure 1: Study design

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)³. Observations and interviews conducted during this study indicated that community of practice was not evident in the beginning of the cooking pro-
gram 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 knives.
- Students took mutual responsibility in reaching a goal (see figure 2 for more themes).

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 (p = 0.02), but a significant dif-
terence between genders (p = 0.002) (table 1) 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 cook-
ing skills from baseline to follow up in the girls group; girls mean jumps from 0.1 to 0.9, where as boys mean only moves from 0.45 to 0.95, indicat-
ing a higher self evaluated cooking skill at baseline than girls, but they are over-
aken 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-efficacy⁴ 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 effi-
cacy, 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 1).

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

<table>
<thead>
<tr>
<th>Q. 23.a. I can cook a fish</th>
<th>B/F*</th>
<th>n</th>
<th>Mean</th>
<th>p value***</th>
<th>Lower/Upper Mean CI 95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>185</td>
<td>0.36</td>
<td>-0.74 (-0.953, -0.528)</td>
<td>&lt; 0.001</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>185</td>
<td>1.02</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Q. 23.a. I can cook a fish</th>
<th>B/F*</th>
<th>n</th>
<th>Mean</th>
<th>Lower/Upper Mean CI 95%</th>
<th>p value***</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Boys</td>
<td>94</td>
<td>1.19</td>
<td>0.07 (-0.219, 0.368)</td>
<td>0.631</td>
</tr>
<tr>
<td></td>
<td>Girls</td>
<td>94</td>
<td>1.36</td>
<td>-0.35 (-0.651, -0.053)</td>
<td>0.021</td>
</tr>
</tbody>
</table>

Conclusions

- Participation in the FCS cooking program increased food literacy through the con-
struction 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 quantifiably measurable in children’s questionnaire re-
sponses. Some were detected through observations and teachers’ statements. This underscores the importance of applying mixed methods strategy to research within the field of food literacy.

References


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