



Turun yliopisto
University of Turku



UNIVERSITY OF ICELAND



HØGSKOLEN
I BERGEN

BERGEN UNIVERSITY COLLEGE



ProMeal



Prospects for promoting health
and performance by school meals
in Nordic countries

School meal systems

Iceland

Legislation

Partly government subsidization



Norway

Lunch box from home

Legislation

Government subsidization of
milk, fruit and vegetables



Finland & Sweden

Legislation

Complete government subsidization



ProMeal - overall aims

- Importance of school lunch for...
 - Healthiness of total diet
 - Class room learning behaviour
 - Cognitive function
- Experiences and perspectives of school lunches



Recruitment in the four countries

	Schools, n	Classes, n	Children, n	Boys, n (%)	Girls, n (%)
Finland	9	18	206	99 (48)	107 (52)
Iceland	6	13	225	115 (51)	110 (49)
Norway	6	17	211	92 (44)	119 (56)
Sweden	9	14	201	99 (49)	102 (51)
Total	30	62	843	405 (48)	438 (52)



Children

Week 1
Day 1

Height & Weight
Cognitive tests
Empathy based stories

Week 2
Day 2-6

Short questionnaire before & after lunch
Photographs of school lunch trays/boxes
Class room observations
Cognitive tests

Week 3
Day 7

Focus
groups

Parents

Questionnaire about the diet
at home (Nordic Monitoring)

School

School meal environment
Learning environment
Organisation (SkolmatSverige)



Classroom observations

Systematic classroom observation – ProMeal

1a. Sheet no.: 2		2a. Observer: MW		3a. Class: 4		3e. Teacher/leading teacher: Roger											
1b. Date: 20181028		2b. Country: SWE		3c. Subject: Svenska		3f. Gender of teacher: M <input checked="" type="checkbox"/> F <input type="checkbox"/>											
1c. Observation start (this sheet): 11.00		3a. School: Kasamark		3d. Number of pupils present in class: 16		3g. Number of teaching staff present: 2											
4a. Child no.		17		21		26		30		16							
4b. Gender of child		M <input type="checkbox"/> F <input checked="" type="checkbox"/>		M <input type="checkbox"/> F <input checked="" type="checkbox"/>		M <input checked="" type="checkbox"/> F <input type="checkbox"/>		M <input checked="" type="checkbox"/> F <input type="checkbox"/>		M <input checked="" type="checkbox"/> F <input type="checkbox"/>		M <input type="checkbox"/> F <input type="checkbox"/>		M <input type="checkbox"/> F <input type="checkbox"/>		M <input type="checkbox"/> F <input type="checkbox"/>	
5. Child-to-teacher interaction		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5	
5a. Attend/listen																	
5b. Child on task to teacher																	
5c. Social																	
5d. Child off task to teacher																	
6. Child-to-child interaction		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5	
6a. Target and child on task																	
6b. Social																	
6c. Target to child off task																	
7. Individual behavior		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5	
7a. Individual on task		X X X X X		X X X X X		X X X X X		X X X X X		X X X X X		X X X X X		X X X X X		X X X X X	
7b. Pause activity																	
7c. Lying down/eyes closed																	
7d. Self-/supplies-/environ. orientated																	
7e. Passive/disengaged																	
7f. Inappropriate activity																	
8. Work setting		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5	
8a. Individual																	
8b. Group																	
8c. Whole-class		X X X X X		X X X X X		X X X X X		X X X X X		X X X X X		X X X X X		X X X X X		X X X X X	
9. Teacher-to-child interaction		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5	
9a. Teacher teach																	
9b. Observe/monitor		X X X X X		X X X X X		X X X X X		X X X X X		X X X X X		X X X X X		X X X X X		X X X X X	
9c. Another child is focus																	
9d. Social																	
9e. Dealing with negative behavior																	
10. General impression of target child		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5		1 2 3 4 5	
10a. Definitely on task		X		X		X		X		X							
10b. Seems to be on task																	
10c. Unable to determine on/off task																	
10d. Seems to be off task																	
10e. Definitely off task																	
Notes		Film		Film		Film		Film		Film							



Cognitive tests

- Color stroop (all) - cognitive flexibility, selective & sustained attention
- CO-span (all) - working memory capacity
- IVA (subsample) - ability to concentrate and remain focused

Ord kommer att visas ett och ett.

Din uppgift är att ange **färgen** ordet är skrivet med. Orden skrivs med **gul, röd, svart** eller **blå** färg.

Du svarar med tangentbordet:

A för svart, **S** för blå, **D** för röd och **F** för gul

Exempel:

På skärmen visas: **RÖD**

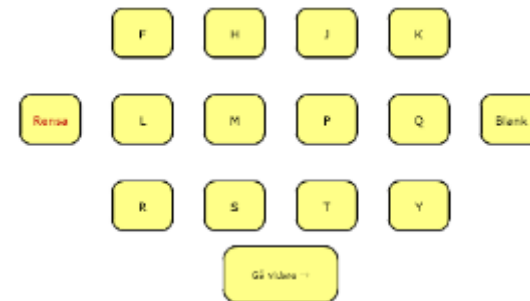
Du svarar: **S**

Hjälpen i hörnet av skärmen hjälper dig komma ihåg instruktionerna.

Försök svara så snabbt som möjligt utan att trycka fel.

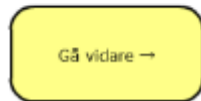
Color-stroop

Ätande bokstaverna i samma ordning.



CO-span

5+4





School meal environment Sweden and Finland





School meal environment Norway and Iceland



Qualitative methods

- The purpose was to study **children's experiences, ideas and interpretations** of school lunches.
- Shared socio-cultural meanings and representations
- Emphathy-based stories
- Focus group interviews



Empathy based stories

Main focus:

- The food
- The social environment
- The physical environment



I feel good because it was good food and it was not busy and disorderly in the dining room. It was quiet and everyone whispering when they talked. You got a quiet meal.



Reference portions (Fin, Ice, Swe)



Recommended energy content (kcal/lunch):

Finland: 650

Iceland: 500-600 (min 400)

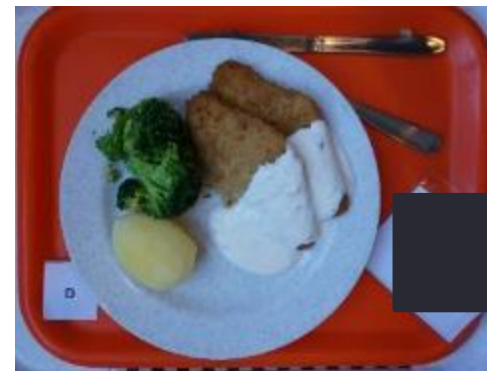
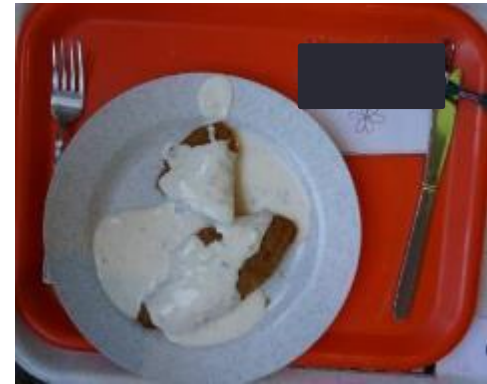
Sweden: 645 (range 535-750)



















Comparison reference portion with actual serving



Reference portion





	Pupil no. 1		Pupil no. 2	
Day no.	Lunch package	Leftovers	Lunch package	Leftovers
1				
2		No leftovers		
3		No leftovers		
4		No leftovers		
5		No leftovers		

Project members

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Thank you for your attention!

