

# Mind the gap! Finding and defining two challenges of training Norwegian HS PSTs in Computational Thinking

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## Finding the gap

### Context and Methods



- CT added to Norwegian K-12 standards [1]
- Need to prepare teachers for this new content
- Investigating *challenges* of training HS PSTs to integrate CT into their teaching

- High school (HS) math & science PST program
- Dual-track program
  1. Subject courses
  2. Pedagogical courses
- Interviewed 3 PSTs
- Thematic analysis [2]

## Defining the gap

Knowing how to teach CT

*There was several times that I felt that the programming we did in the later physics courses was nice to work with, but that was way above what we're supposed to teach.*

Knowing about CT and its standards

Learning computational science

Teaching CT in math/science subjects

Camilla  
math & physics PST



*We discussed that [the CT standards were] coming in as they were introduced. So, it was sort of like, how much programming are they going to know at each stage? ...But not that much about directly about how to teach it.*

Kristoffer  
physics & math PST

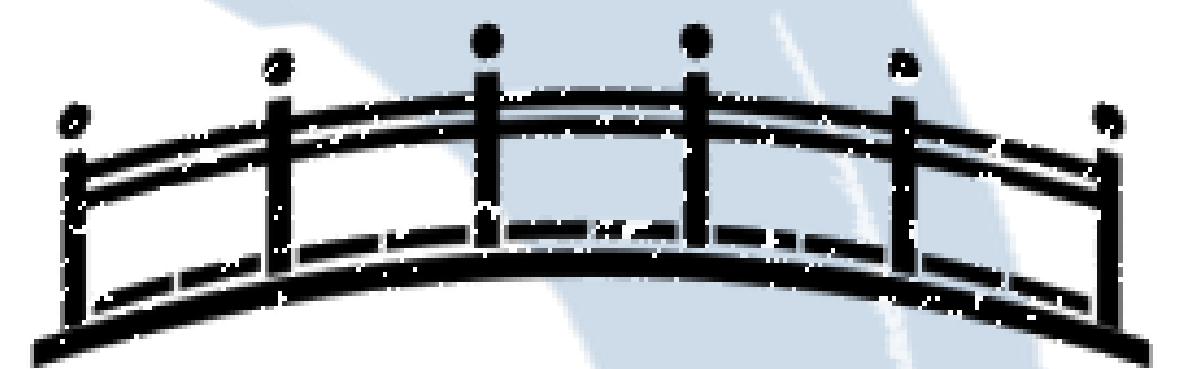


How can we help pre-service teachers cross these divides?

1. Opportunities in teaching methods courses to connect upper division computational science to the high school level content that they'll be teaching.
2. Providing PSTs with computational thinking-specific pedagogy in teaching methods courses.

## Bridging the gap

### Instructional Implications



### Citations

1. Kunnskapsdepartementet, "Fornyng innholdet i skolen," Regjeringen.no, Jun. 26, 2018.
2. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.

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