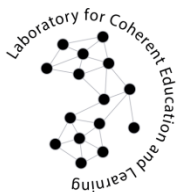


INTERDISCIPLINARY SCIENCE TEACHER EDUCATION IN DENMARK

Morten Rask Petersen & Claus Michelsen

Laboratory for Coherent Education and Learning, University of Southern Denmark

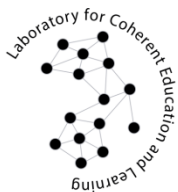


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OUTLINE

- General teacher education in Denmark
- The new science teacher education
- Arguments for changing the education
- First impressions from cohort 1
- Outlook for research themes



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| Science teacher education | Lower secondary schools | Upper secondary schools | New science teacher education |
|---------------------------|--|-------------------------|-------------------------------|
| Intended for pupils aged | 6 - 15 | | |
| Location | University College | | |
| Title | Bachelor | | |
| Lenght of study | 4 years incl. Pratical experience | | |
| Focus of study | General pedagogics combined with course specific didactics | | |
| # of special fields | 3 | | |



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| Science teacher education | Lower secondary schools | Upper secondary schools | New science teacher education |
|---------------------------|--|--------------------------------------|-------------------------------|
| Intended for pupils aged | 6 - 15 | 15 - 18 | |
| Location | University College | University | |
| Title | Bachelor | Master | |
| Length of study | 4 years incl. Practical experience | 5 years with no practical experience | |
| Focus of study | General pedagogics combined with course specific didactics | Content | |
| # of special fields | 3 | 1 - 2 | |



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| Science teacher education | Lower secondary schools | Upper secondary schools | New science teacher education |
|----------------------------------|--|--------------------------------------|--|
| Intended for pupils aged | 6 - 15 | 15 - 18 | 6 – 15 |
| Location | University College | University | University College & University |
| Title | Bachelor | Master | Bachelor |
| Lenght of study | 4 years incl. Pratical experience | 5 years with no practical experience | 4 years incl. Pratical experience |
| Focus of study | General pedagogics combined with course specific didactics | Content | General pedagogics combined with interdisciplinary science didactics |
| # of special fields | 3 | 1 - 2 | 4 |

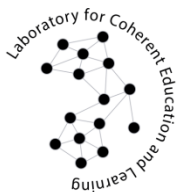


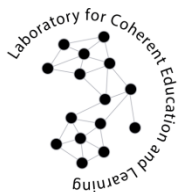
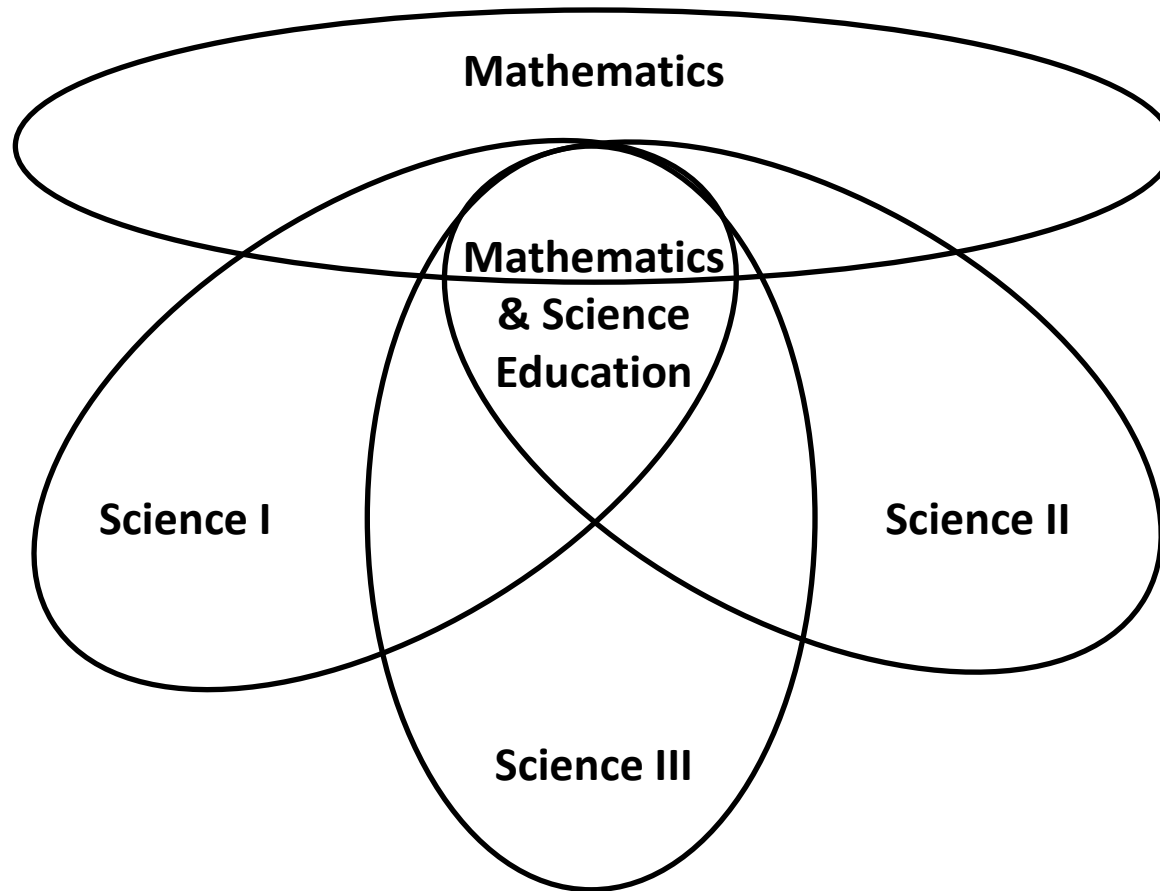
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What is the news in this

- Structured and credited like ordinary lower secondary school teacher education
- Combining studying at both university colleges and university
 - Doing science courses with university science students
 - Engaging in a science research milieu
 - Studying with pre-service upper secondary teachers
- Getting 4 special fields within science and mathematics
 - Mathematics as mandatory
 - Choosing 3 of 4: Nature/technology, Geography, Biology, Physics/Chemistry





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Arguments

Theoretical:

- *More holistic view on science*
- *More realistic view on science*
- *Motivating for most students*

Curricular:

- *National exam in integrated science*

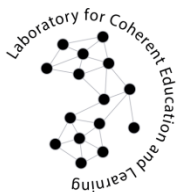
Personal (teachers perspective):

- *Diminishing content crowding*
- *Better possibilities for perspectivating teaching to other areas*



First impressions from the current students

- The structure of the education made it made
- They cannot recommend the education to others if this structure is not changed
- They are proud to have "survived" the first year
- They are proud to to be on a teacher education where they also go to the university

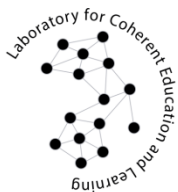


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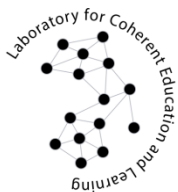


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Outlook to research perspectives

- Teacher identity / teacher believes
- Interdisciplinary thinking skills
- Mathematical modelling competencies
- Closing a transition gap
- Etc.



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Thank you for your attention

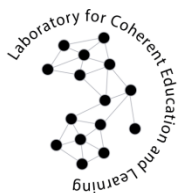
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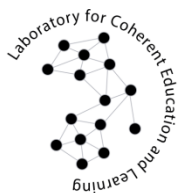
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