Reproduction and Change in and through Technology Education

How does my work resonate with you and initiatives at KTH?

“Spotlight”
Anne-Kathrin Peters
Ass. Prof. Department of Learning @ KTH
“Now we are beginning to surface”
“Nu börjar vi dyka upp”

(student year 2, Computer Science / IT Engineering, Ethnographic study 2018-2019)
Competing and Dominant Discourses

Programming course

Human Computer Interaction course

Work in Progress to be submitted in Journal of Computer Science Education
Shared ways of doing, thinking, feeling

Participation in CS/IT is experienced as...

| Label | \(\ldots\) using | Amari (CS, year 3): “We have this bible, \(\ldots\) a thick book which contains a lot of algorithms \(\ldots\) and data structures. \(\ldots\) it is very complete, \(\ldots\) it contains only necessary text.
I: “How did you use it?”
Amari: “[\ldots] The book contains a list of different algorithms that you can go through to see: ‘That algorithm is suitable for this problem!’”
I: “How did the book get the name bible?”
Amari: “[\ldots] Older students have called the book ‘the bible’, because for many students, CS is all about algorithms and data structures.”
|       | \(\ldots\) learning |
| C     | \(\ldots\) creating |
| D     | \(\ldots\) problem solving |
| E     | \(\ldots\) problem solving for others |
| F     | \(\ldots\) creating new knowledge |
| G     | \(\ldots\) contributing to societal endeavours |

Longitudinal study in computing education

**Interview Year 1:** “The connection between Computer Science and political science comes naturally.”

**Interview Year 3:** ”I think, one misses a lot when combining politics and CS. [...] Political science [...] is about discussion [...] without getting anywhere. [...] The only way to come to a point of right or wrong is to look at reality. [... In CS] it often feels like [...] I want to do a better solution [...] One tries: Can I do this algorithm slightly, slightly faster? As this is a theoretical, a natural science discipline, one can always test the solution [...] in a very small, secure environment.” (Peters 2018)
Troubling gendered oppositions

Included, recognised
- Backend programming ("maskinnära")
- the invisible, hardly noticable
- Technical
- Logical / Objective
- Difficult

Excluded, Marginalised
- Frontend programming
- visible
- Not/less technical
- Subjective / Emotions
- Easy

See also Koch-Svedberg, G., Peters, A.-K. (2021) Om utbildningens möjlighet att förändra den mansdominerade teknikkulturen in Franzén, C., Tzimoula, D. (Eds.) Genus och Professioner, Studentlitteratur
Yet. Climate crisis, tech and demands for change

Societal Transformations for Climate Action

Call for proposals on a research programme

Focus areas: Equity, Digitalisation, Civil society
Education for sustainability and change!?  

In Progress: Mendick, Peters, “An analysis of how post-Bologna policies construct the purposes of higher education and students’ transitions into Masters programmes”, *European Education Research Journal*  

In Progress: Peters, Mendy, Barrineau ”Emergentist education and the opportunities of radical futurity” *Futures*  


**STEM Identity**  
Intersectionality: Gender, Race, Class & Discipline/knowledge  

**The Role of Higher Education**
Care ethics in computing and engineering education to develop sustainability education

• Also VR research proposal with KTH, UU, Chalmers
  Anne-K. Peters, Minna Salminen-Karlsson (UU Gender), Stefan Bengtsson (UU, ESE), Catharina Landström (Chalmers, STS) (6 MSEK)

• Perspectives of care
  • Feminist care as relational
  • Environmental & Sustainability Education care as a foundational disposition
How does this resonate with you?

Perspectives of care

- Feminist: care as relational
- Environmental & Sustainability Education care as a foundational disposition

STEM Identity
Intersectionality: Gender, Race, Class & Discipline

The Role of Higher Education

Education
Gender Research
CSEd
STEM Ed
Future Studies
Computing
STEM
A favorite. Deborah Osberg (2010)
Taking Care of the Future?
The complex responsibility of education & politics

“edu political theory, an educational form of politics, or a political form of education”

What are your understandings of the paper?
Can you think of any practical example of education?

Also interesting
Conception of care inspired by Futures Studies

• Non-normative
• Complex, open-ended & emergent rather than instrumental & teleological
• Envisioning as experiencing and experimenting with the possibility of the impossible
The unique opportunities of education

• A democratic space that allows people to engage with the “experience and experiment with the possibility of the impossible” (Derrida 1992), not the moral conviction of some

• It may be the only such place

• “Education can be inventionalist, using the interplay of otherness to arrive at new rules”

“edu political theory, an educational form of politics, or a political form of education”
Reflections

• Beautiful: gives everyone a voice, playful, creative
• inspiration for how education can be different from enculturation
• Feminist perspectives as complement?

What are your understandings of the paper?
Can you think of any practical example of education?
Perspectives of care

• Feminist: care as relational
• Environmental & Sustainability Education care as a foundational disposition
• Care through Futures

STEM Identity
Intersectionality: Gender, Race, Class & Discipline

Thank you!