Reproduction and Change in and through Technology Education

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

"Spotlight"

Anne-Kathrin Peters

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"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
A	… using
B	… learning
C	… creating
D	… problem solving
E	… problem solving for others
F	… creating new knowledge
G	… contributing to societal endeavou

Amari (CS, year 3): "We have this bible, [. . .] a thick book which contains a lot of algorithms [...] and data structures. [...] it is very complete, [...] it contains only necessary text.
I: "How did you use it?"
Amari: "[. . .] 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: "[. . .] Older students have called the book 'the bible', because for many students, CS is all about algorithms and data structures."

Peters, A.-K., (2018) Student Experience of Participation in a Discipline – A Longitudinal Study of Computer Science and IT Engineering Students, in *ACM Transactions on Computing Education* (TOCE)

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."
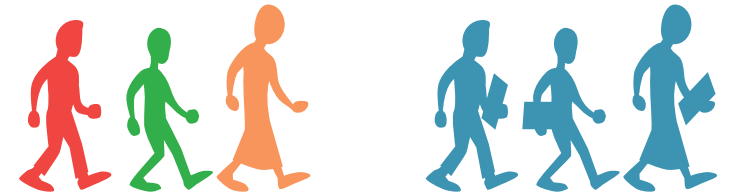(Peters 2018)

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Learning Computing at University: Participation and Identity

A Longitudinal Study

ANNE-KATHRIN PETERS

Learning Computing at University: Participation and Identity
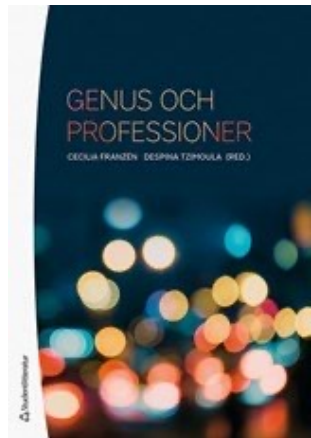
Troubling gendered oppositions

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

Fast Forwarding for Fair Futures -
Environmental Governance, Participation, and
Collaborative Learning for Societal Transformation

Societal Transformations for Climate Action

Call for proposals on a research programme

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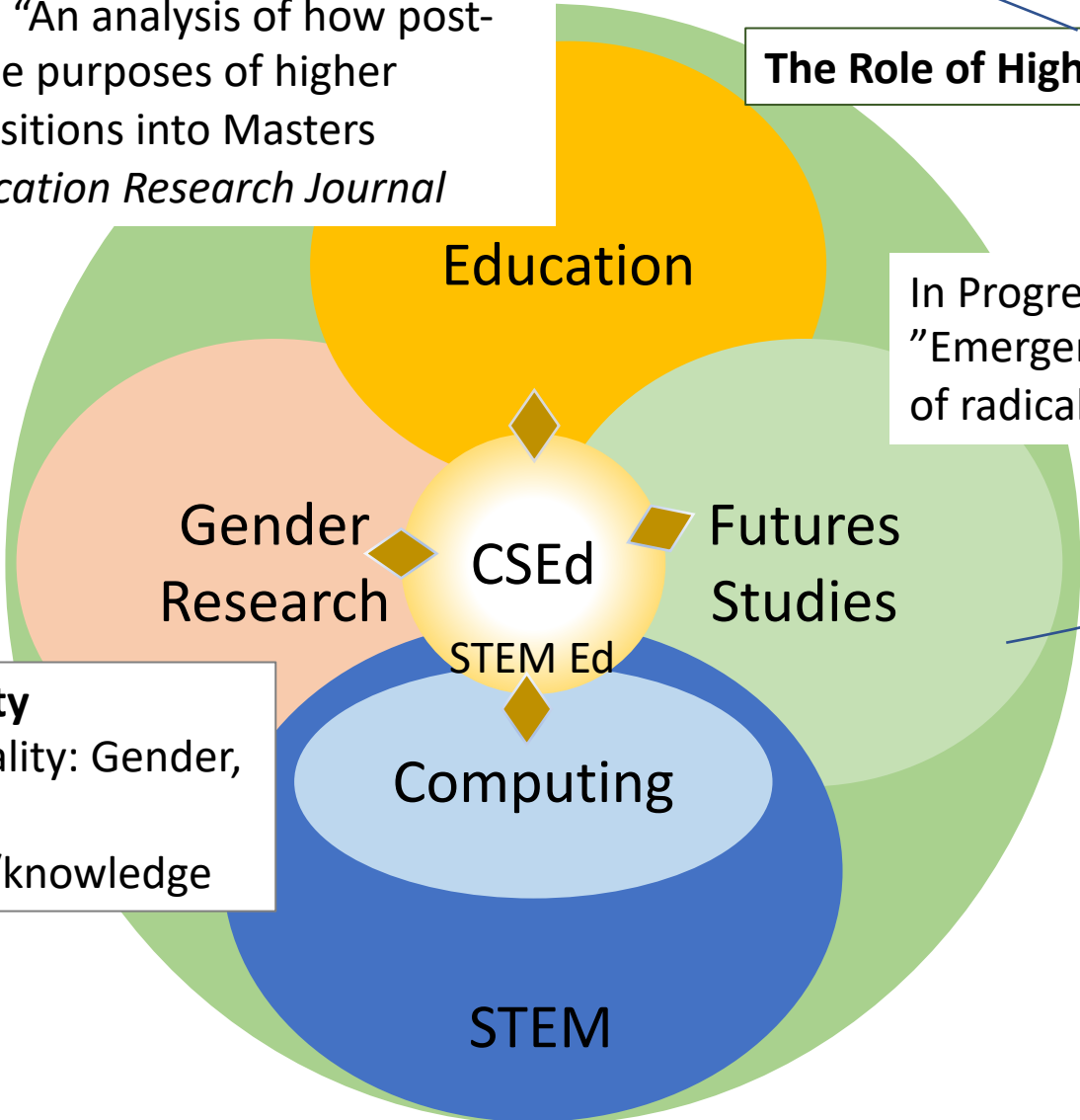
Education for sustainability and change!?

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*

The Role of Higher Education

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

Peters, Golay, Daniels (2021) Using Futures Studies in Computing and Engineering Education: "Emergentist Education" in an Open-Ended Group Project" FIE conference

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

Education

Gender Research

CSEd

STEM Ed

Futures Studies

Computing

STEM

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

Care ethics to develop computing and engineering education for sustainability

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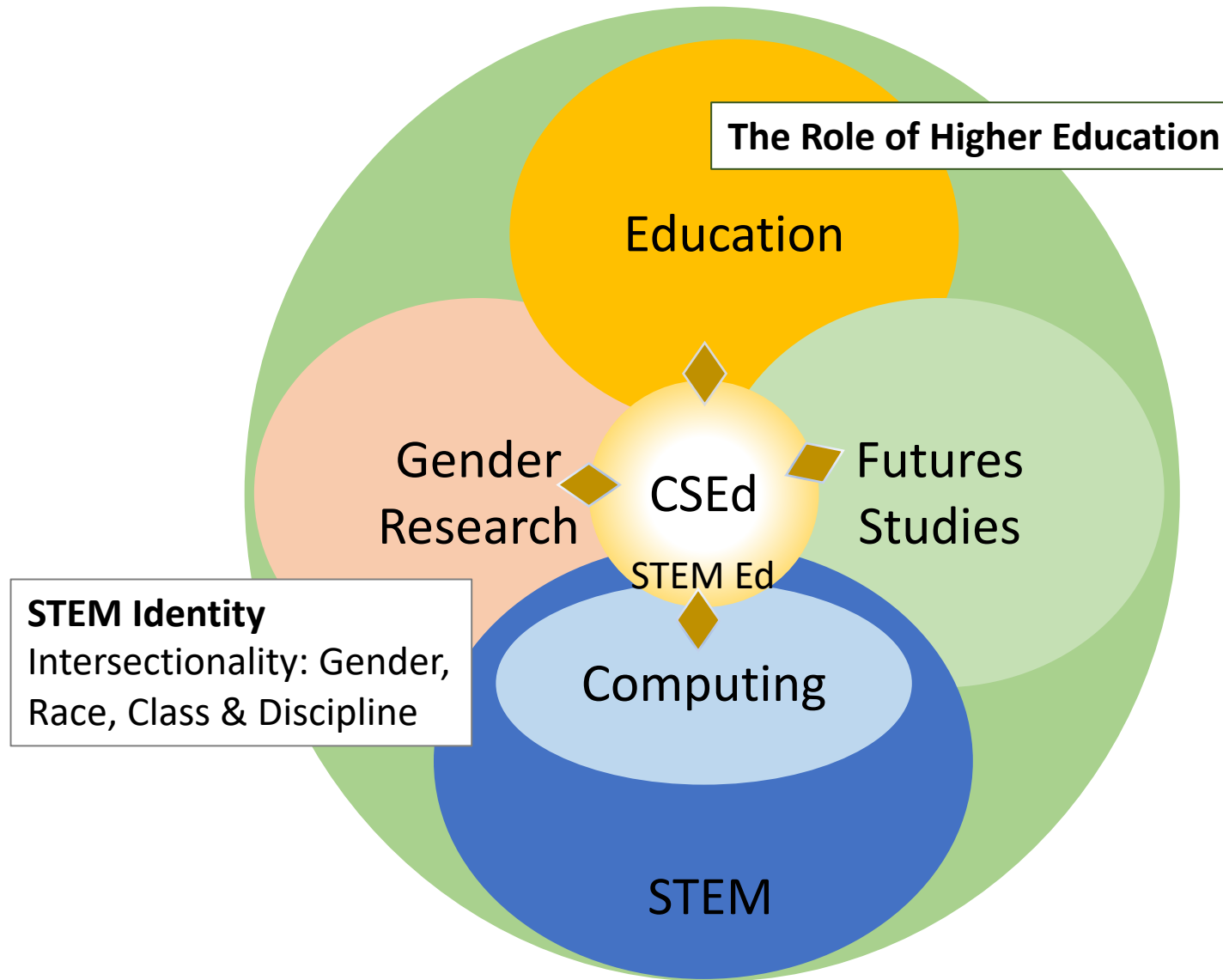Umeå University
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Abstract—The aim of this special session is to connect researchers interested in computing and engineering education for

IT is also found to catalyse social, economic, and ecological challenges [2]. IT professionals are in a position to contribute

How does this resonate with you?

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

Education

The Role of Higher Education

Gender Research

CSEd

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STEM Identity
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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
Osberg, D., & Biesta, G. (2020). Beyond curriculum: Groundwork for a non-instrumental theory of education. *Educational Philosophy and Theory*, *0*(0), 1–14. https://doi.org/10.1080/00131857.2020.1750362

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 inventionalistic, 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?

Thank you!

Perspectives of care

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

The Role of Higher Education

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