Enabling PhD student collaboration in research groups

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Motivation

Independence is important,
but students struggle with

- Sense of isolation
- Loneliness
- Stress

Can collaboration with fellow students reduce such problems and help develop independence?

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Literature Survey

Benefits of Collaboration

- Structured peer learning groups: Improved communication skills and felt supported emotionally (Stracke, 2010)
- A peer writing group: Improved writing skills and managed psychological challenges (Wegener et al., 2016)

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Research Questions

***Assumption**: Active collaboration and support among PhD students can help alleviate struggles and contribute to their success in their PhD studies*

RQ1: How can supervisors enable and promote intra-PhD student collaboration and support?

RQ2: What challenges are perceived by the supervisors? What are the impact and benefits?

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Interviews

focused on: ‘How supervisors promote PhD student collaboration and the challenges they face’.

Johan

Software Engineering

Jenny

Risk Management & Societal Safety (formerly)

Jonas

Civil engineering

Günter

Thermal climate and health & Industrial economics and management

Namsoon

Materials science

Interviewees

- At least Associate professor level
- Experience with at least 1 PhD student supervision
- Mainly within Lund University

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Methods

- Qualitative **interviews** with 10 supervisors

  Notes from interviews were **discussed** between the authors

  Data analyzed and structured into **5 different themes**

- Supplemented by a **documents review** - **inventory of PhD student co-publications** from different departments (Computer Science, Design Sciences, Building and Environmental Technology)

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Five different aspects of PhD student collaboration

Thesis connection

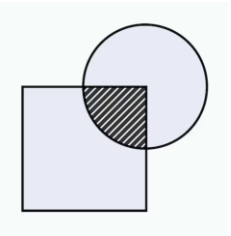
- **Thesis priority** – focus on completion limits interest in co-authoring.
- **Collaboration concerns** – seen as slowing thesis progress.
- **Authorship issues** – ownership and first-author questions create barriers.

Facilitation

- **Physical labs** – peer learning and socializing; field-dependent
- **Research seminars** – knowledge sharing, familiarity with others' work, communication practice; can be stressful in presence of senior staff
- **Joint methodology courses** – usually linked to co-authoring projects

Themes

Common denominator



- **Departmental affiliation**: shared spaces, informal interactions
- **Method overlap**: similar approaches across areas
- **Publication barriers**: hard to align authors interests

Enablers

- **Supervisors** – create cross-department links and open access to their wider networks
- **Peer PhD students** – provide support networks; wider knowledge exchange
- **Larger faculty groups** – offer cross-department events that expand students' networks

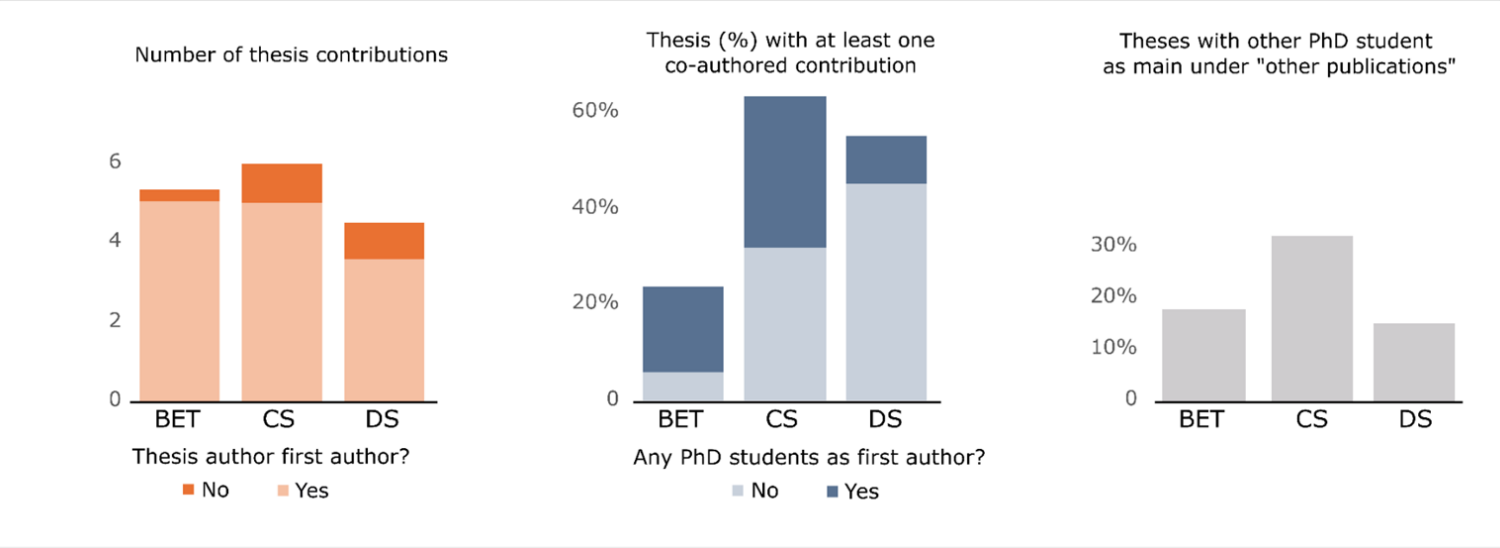
Culture and identity

- **Employee-like culture** – low hierarchy, more initiative, more collaboration.
- **Student-like culture** – individual focus, limited peer interaction, formal collaboration only.
- **International diversity** – cultural differences shape engagement.

BET: Building and Environmental Technology
CS: Computer Science
DS: Design Sciences

Thesis Connection

- 20 latest theses from each of three departments
- Publications from each thesis
- Analyzed co-authoring trend



Departments differ sharply in how much co-authoring is integrated into thesis work, with CS showing the strongest collaborative publishing culture.

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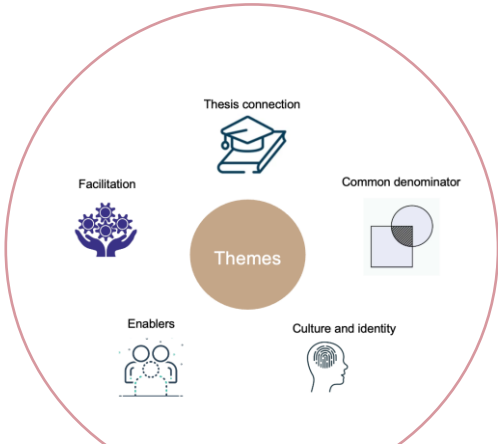
Benefits of PhD Student Collaboration

Structured peer learning groups and informal networks

- Alleviate the sense of isolation
- Improve knowledge-sharing practices
- Improve research quality



Key strategies

Role of supervisors and institutional support

- Encourage co-authorship
- Create shared methodologies
- Organize research seminar or joint methodology courses

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Key strategies

Cultural identity and institutional trend

- **Treat PhD students as independent professionals**

- Reduce hierarchical barriers and encourage more informal collaboration

- **Promote cross-disciplinary interaction and joint projects**

- Involve/Invite PhD students in different events

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Key strategies

Challenges and Solutions

- **First-authorship issue**

- Clear communication and guidelines on authorship can help

- **Varied engagement levels among PhD students**

- Confidence-building initiatives can help increase student participation

- Creating more inclusive environments

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Future Work

- The scope of the study was confined to supervisors mainly within Lund University, which may affect the transferability
- Explore the perspectives of PhD students themselves
- Investigate how collaboration practices vary across different disciplines
- Investigate how institutional culture influences these practices on a broader scale

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