



MatRIC Centre for Research,
Innovation and Coordination
of Mathematics Teaching



Centre of
Excellence in
Education

Research activity

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UNIVERSITY OF AGDER

In collaboration with:



NTNU – Trondheim
Norwegian University of
Science and Technology



Matematikkensenteret
Regjeringsutvalget for naturvitenskap



MIBU
Management University
of Business



MatRIC-bioCEED collaboration

(Yuriy Rogovchenko, Simon Goodchild, Olov Viirman, Yannis Liakos)



Senter for
fremragende
utdanning

- Mathematics for biology students using mathematical modelling
- Aimed at increasing biology students'
 - motivation for
 - interest in
 - perceived relevance ofstudying mathematics, through the use of mathematical modelling



A developmental research project



Senter for
fremragende
utdanning

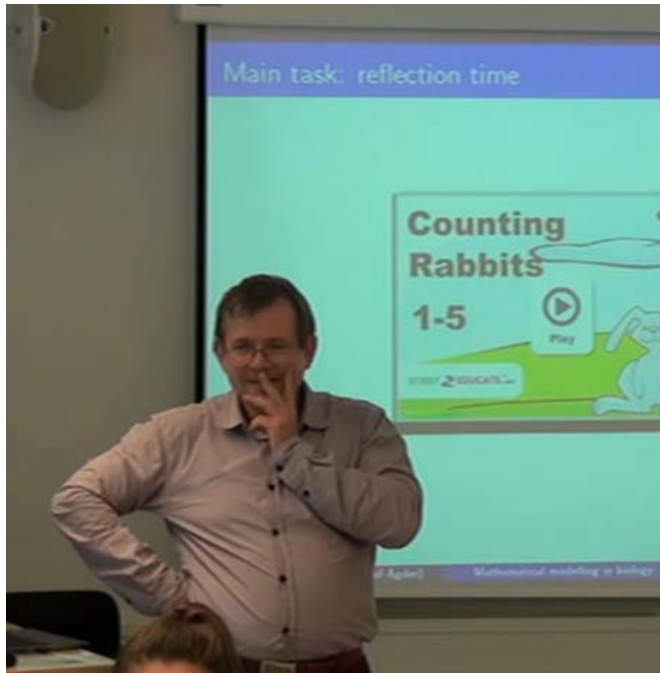
- Phase 1 (pilot)
 - 10 students (first and second year biology students)
 - 1 meeting (April 2015)
- Phase 2
 - 12 students (first semester biology students)
 - 4 meetings (Sept-Nov 2015) + follow-up meeting (April 2016)
- Phase 3
 - About 20 students (first semester biology students)
 - 9 meetings (Sept-Nov 2016)



Phase two



Senter for fremragende utdanning





Example task

- Using data on roadkill to estimate the density of a rabbit population





My research part

- The development of the mathematical discourse of the students throughout the course of activities
 - CERME10 paper in collaboration with Elena Nardi, UEA, UK
 - The character of the tasks influences the way students engage with them – more scaffolded tasks connected with ritualized routine use
 - Planned journal paper to be written in the spring
- A “communities of practice” perspective
 - Collaboration between mathematicians and mathematics educators
 - Biology students negotiation of their place within different communities (biology, mathematics)
 - Papers to be written



MatRIC-MEC collaboration

(Olov Viirman, Yuriy Rogovchenko, Paul Hernandez-Martinez, Stephanie Thomas)

- Investigating the use (or non-use) of mathematical modelling in university mathematicians' teaching and research practices
 - Funded by MatRIC small research grant
 - First stage: survey of Norwegian and English mathematicians (spring 2016)
 - Journal paper – Norwegian data only (accepted with minor revisions for MatRIC special issue of NOMAD)
 - Norwegian mathematicians have mainly realist views of MM
 - Obstacles to implementing MM in teaching include mathematical and institutional factors
 - Planned paper for major international journal



MatRIC-MEC collaboration (cont'd)



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- Second stage: interviews with selected respondents
 - We have applied for an second MatRIC small research grant for this
- Plans for writing an application for external funding for a larger follow-up project



Systematic research review

- The use of video in university mathematics teaching
 - Research focuses mainly on questions of form, less on content and ways of use
 - In the last two years, a greater focus on didactical issues (mainly in a Flipped Classroom setting)
 - Paper submitted to International Journal of Undergraduate Mathematics Education
 - Rejected, but in a promising way 😊
 - A substantially revised version will be resubmitted (agreed upon by the editor)