Teacher-led education innovation with ICT

ACHIEVEMENTS AND CHALLENGES

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BOOST! Education Innovation program
BOOSt!

Education innovation fund (2019-2024)

Teachers in the lead

- Enhancement of education
- Use of ICT
- Alignment to TU/e Educational Vision

95 pilots | 30 completed
**Educational Vision 2030**

**BOOST! aims**
- More flexible education
- More personal education
- More attention to diversity
- More cooperation (students, companies, universities etc.)

**Diverse learners**
- Active learning
- Engineers of the future

**Challenge-based learning**
- Professional development
- Self-directed learning
- Lifelong learning

**Engineers of the future**

**Self-directed learning**

**Lifelong learning**
BOOST! Pilot themes

- Innovative labs
- Blended learning
- Automated assessment
- Interactivity
- Online learning
- Modularization
- Learning analytics
- Gamification
- Other
Achievements

University
- Increasing quality of education
- Realising Educational Vision
- Involving teachers

Course
- Incremental to radical change
- Exploitive to explorative developments

Teacher
- Increased professional development
- Increased collaboration
- Reduced workload

Student
- Improved learning processes
- Increased engagement
- More authentic practices
- Increased alignment with industry
Challenges

ICT RESOURCES
- Infrastructure, computing power, physical space
- Staff with specific ICT competences, other than “business-as-usual”
- How to anticipate future needs and developments?

DISSEMINATION
- “Copy/paste” not straightforward or possible
- How to support sharing of experiences and findings across the university?

DIDACTICS
- Reconsideration of didactics should align with nature of innovation
- How to support teachers in this process?
Exemplary BOOST! pilots

Remote lab
Remote lab pilot

Online controlling of lab equipment
- 24/7 lab access via own laptop

Aims
- Create opportunities for lab education
- Transform course to challenge-based learning format

Teacher’s motivations
- To allow application of theory in practice
- To create more authentic practices
- To increase student engagement
Remote lab pilot – Achievements

University
- State-of-the-art lab education
- Contributes to realizing Educational Vision

Course
- Radical change
- Explorative innovation
- Inclusion of lab education
- Move to challenge-based learning setup

Teacher
- Increased professional development
- Reduced workload

Student
- New opportunity for learning
- More authentic practices
- Increased student engagement
Remote lab pilot – Challenges

**ICT RESOURCES**
- Stability of online environment
- Scaling up
- Implementation, alignment and maintenance within existing ICT structures

**DISSEMINATION**
- Adaptions required for each specific application
- “Not-invented-here” syndrome

**DIDACTICS**
- Self-regulated learning
- Providing adequate support to students during the experimental process
In conclusion: teacher-led innovation works!

- University: Enhanced quality of education
- Course: Progressive use of ICT
- Teacher: Increased professional development
- Student: Improved learning processes

**ICT RESOURCES**
- Attract new expertise to align with innovation requirements

**DISSEMINATION**
- Create opportunities for sharing experiences and underlying ideas

**DIDACTICS**
- Find opportunities to support teachers in this challenge
More information

BOOST.tue.nl

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