Teacher-led education innovation with ICT

ACHIEVEMENTS AND CHALLENGES

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BOOST! Education Innovation program

Today's presentation

Introduction to BOOST!

BOOST! aims and process

BOOST! pilot themes

Program achievements & challenges

Exemplary pilot achievements & challenges

Q & A

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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

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Educational Vision 2030

Active learning

Diverse learners

Engineers of the future

Challenge-based learning

BOOST! aims

- More flexible education

- More personal education

- More attention to diversity

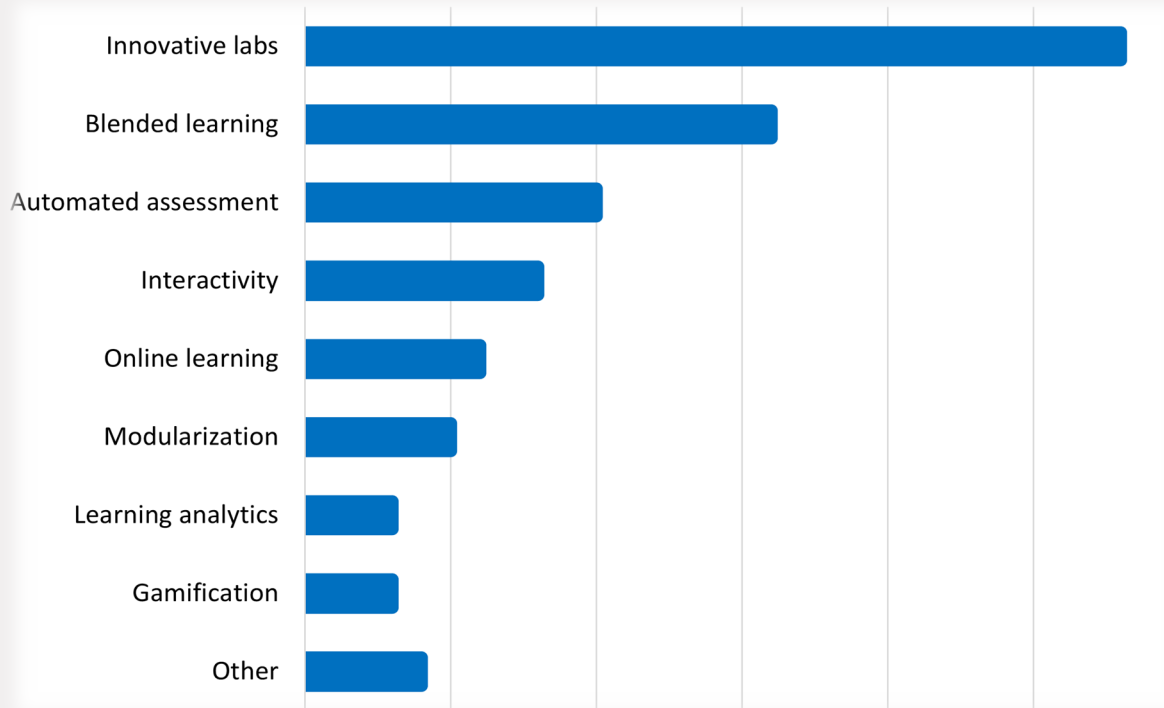- More cooperation (students, companies, universities etc.)

Professional development

Self-directed learning

Lifelong learning

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BOOST! Pilot themes

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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

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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?
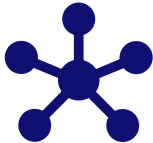
DISSEMINATION

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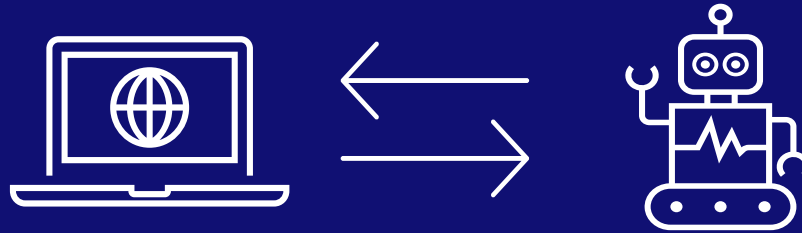- How to support sharing of experiences and findings across the university?

DIDACTICS

- Reconsideration of didactics should align with nature of innovation
- How to support teachers in this process?

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Examplary BOOST! pilots

Remote lab

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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

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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

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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

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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

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More information

BOOST.tue.nl

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