School-university-industry partnership for co-creating educational innovation: Lessons learnt

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HUB4SCHOOLS

STARTUP ESTONIA EDTECH ESTONIA

Haridus- ja Noorteamet

KREDEX

Motivation

- StartUp Community is developing quickly in Estonia:
  - Industry partners are interested in collaborating with schools and teachers to find users and improve the products, but **no systematic platform to access** the schools and collaboration mainly based on the individual contacts;
  - Young emergent industry partners **lack of skills to understand the effect of products** and services to teaching and learning practices;
  - Gap to bring together **the competence related to the learning sciences**, didactics, educational psychology etc and technological innovations;
- Academy often fails to collaborate with industry, because of different culture, needs and expectations (timeframe, maturity of the products)

Although there is a need for evidence-based practices, **the skills and readiness of companies and educational institutions to assess the impact of practices and services on learning and teaching are deficient** (Cukurova et al, 2019)

EDUCATE: to support such SMEs who can't afford to have researchers in team, but still are interested **in evidence-informed product development**

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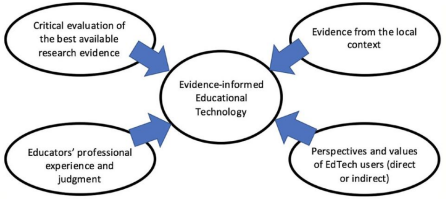
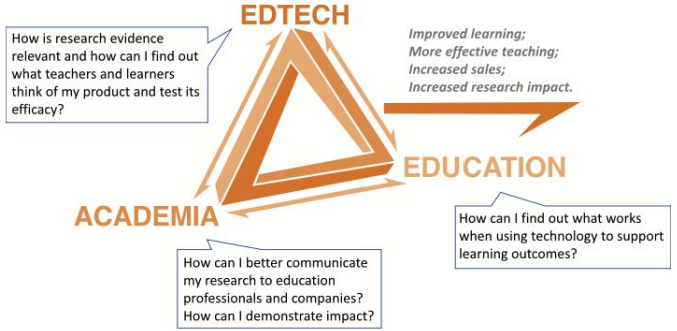
Educate





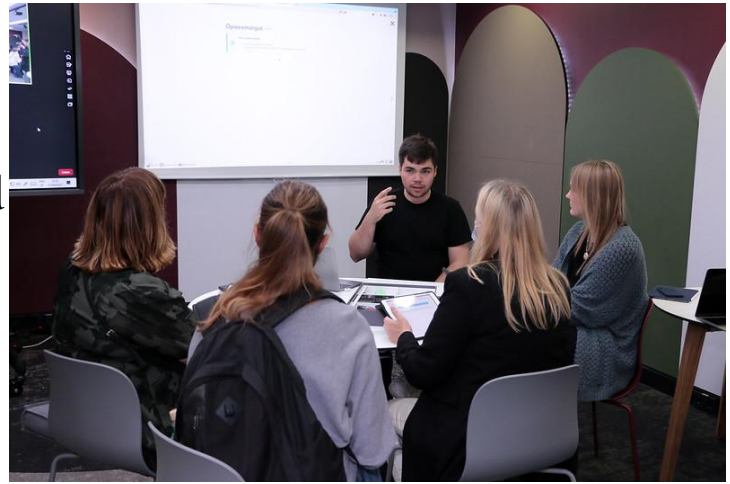
Research-oriented training program, which does not focus on 'what works', but also '**how, when and why' works**

Goal

- Bring together researchers and start-ups, teachers and policy makers to support research and **evidence-based thinking** in product development and foster collaboration between stakeholders
- Encourage collaboration between educational institutions and companies in order to create educational innovations that **meet the needs of schools**
- Find out what kind of **collaboration model** is needed in the educational landscape that would enable evidence-based and pedagogically meaningful educational technology innovation in practice

What we did?

- Two iterations of co-creation program in collaboration with HarNo, Startup Estonia and TLU (2020 & 2021)
- 6 teams: EdTech Startup partner, two teachers and one university mentor (+ when needed other scientific expertise)
- 6 months: monthly reflection session, co-design sessions
- Trainings: Service design, usability, design thinking, research-oriented service development

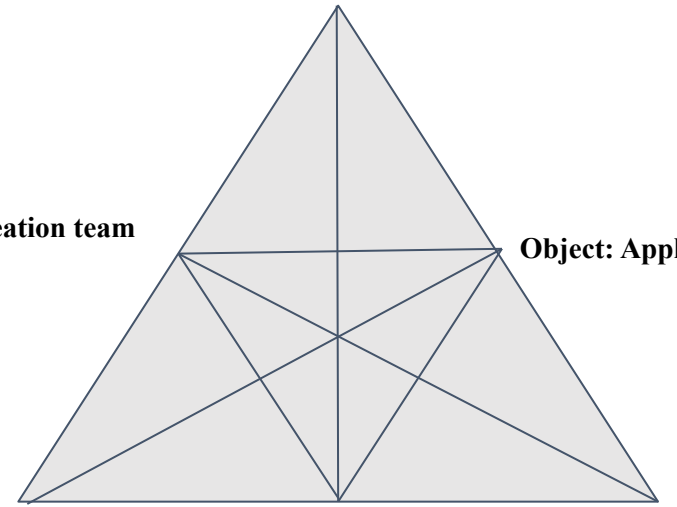


Co-creation team as Activity System

Tools: Workshops, co-creation sessions, data collection tools etc

Subject: Co-creation team

Object: Application



Rules: Contracts, development goals, business models, national curriculum

Division of labour: Mentoring, testing & validating, additional expertise

Community: Academy, HarNo, StartUp Estonia, Students

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Opportunities

- **University**:
  - Integrating industry partners to our ‘ecosystem’ and to demonstrate our research to industry
- **Teachers**:
  - Opportunity to shape the development of a product that meets their pedagogical and instructional needs (real-life needs)
  - Possibilities for professional development and acquisition of new knowledge
- **Industry partners:**
  - Immediate feedback from end-users and dynamic validation
  - Networking and collaboration

Lessons: It's about mindset and the culture

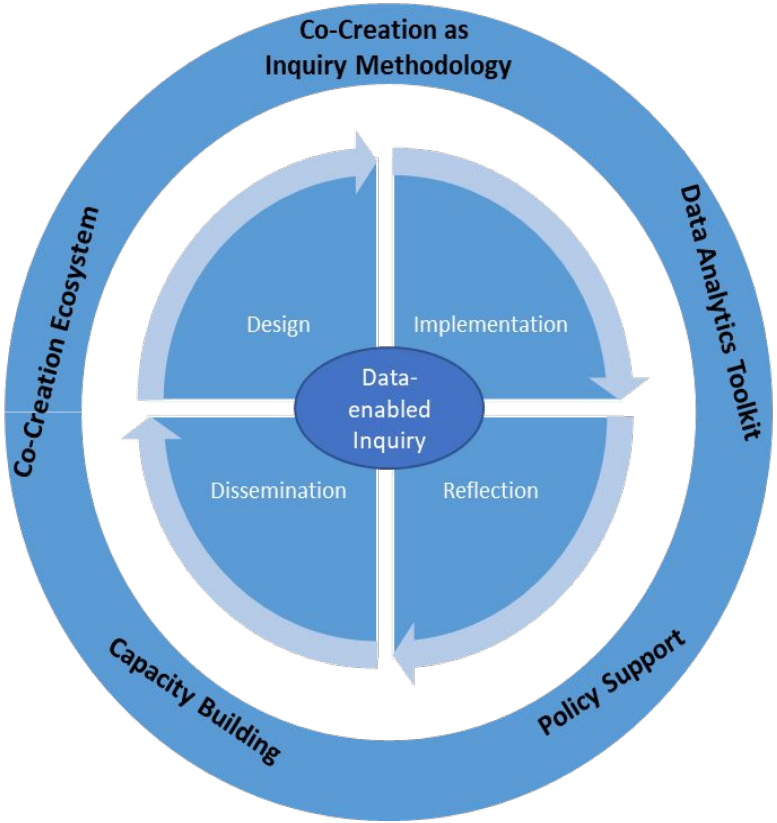
- What is **co-creation**?
  - What is the role of teachers?
  - What is the role of university?
- Evidence-informed product development:
  - Need for impact studies;
  - Lack of interest to monitor the process
- 'One-size-fits all' doesn't work: mentors, trainings, timeline

Next:

- Improving the model - 3rd iteration planned
- There is a need for approaches in the edtech sector that emphasize co-creation and is embedded into social processes: **Living Lab Approach**

Co-creation for educational innovation

- Co-creation approach: A change that leads to new practices
- Positive impact on stakeholders (students, teachers, school leaders, researchers, society)
- Evidence-based approach to creation of innovation
- Sustainable change: change agents, regional innovation, entering platforms



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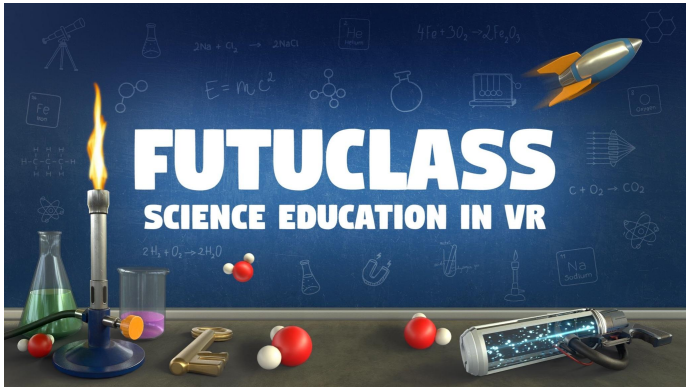
Living Lab..

University / School /Industry Networks

- Sustainable **cooperation** between schools, research labs, industry and other stakeholders
- Co-designing **new learning methods** and a **research process**
- Collecting data to **establish evidence** of impact
- **Scaling up** research and innovation (networks)

Example



Program activities:

- Industry goal: to develop modules for chemistry in secondary school that can be used with VR technologies
- University didactics (working as a teacher) involved in the co-creation team
- Success:
  - Mutual research interest: does the ‘method’ helps students to learn more effectively (develop a deeper conceptual understanding)
  - Integration to main activities of research group

Follow-up actions in Living Lab

- Follow-up co-creation between didactics and the company
- Cyclical semi-experimental research interventions, inclusion of MA students to research
- Industry as a partner in project proposals

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Takeaway message

…. Social practices are important to create a shared understanding of the ‘innovation’ and to build two-directional interest → sustainable collaboration based on mutual interests and needs

Thank you!

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