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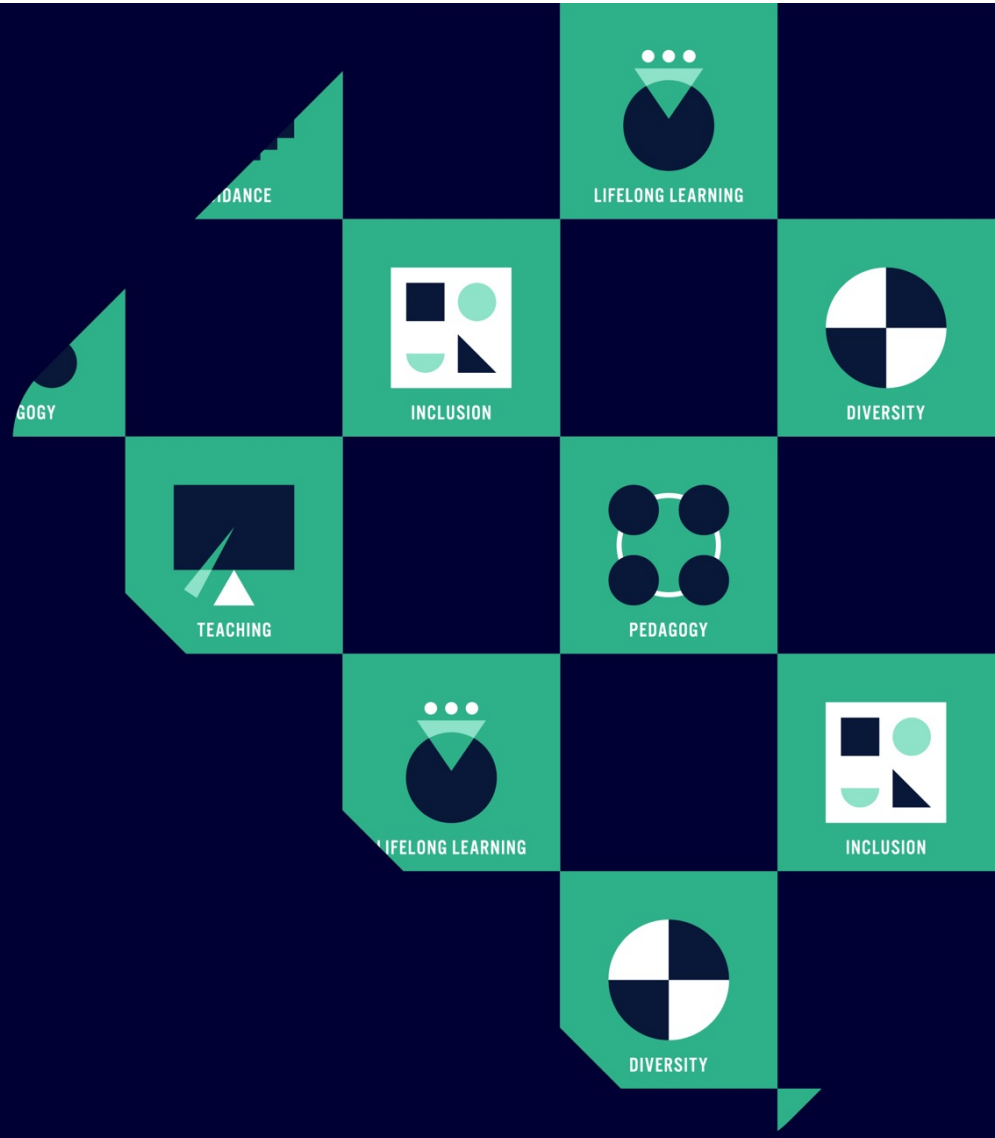
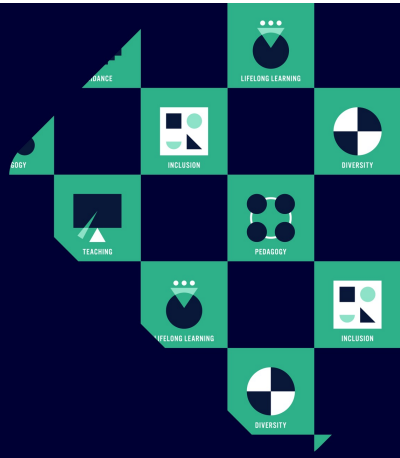
Preparing future teachers for the strategic use of ICT: A project-based approach

07/02/2025 - ACT - Teaching Day

FACULTY OF HUMANITIES, EDUCATION AND SOCIAL SCIENCES



Pedagogical Problem



- Need for teachers who can strategically & effectively integrate ICT into their teaching practices
- But limited strategic use of technology in schools in Luxembourg (Reuter, Busana & Linckels, 2016)
  - Mainly “directed instruction” EdTech practices
  - Digital tools for quizzing pupils
  - Missing out on the affordances of digital tools for engaging, deep and meaningful learning

General objectives

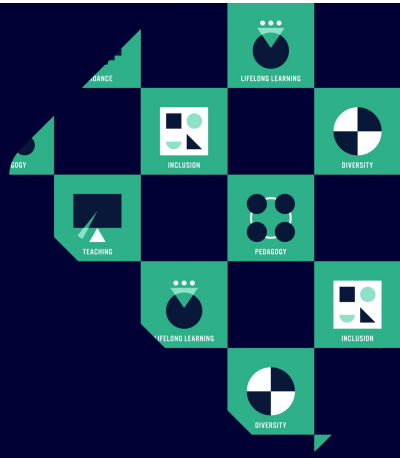
Develop our future teacher students' **educational design competencies**

- respond to existing needs in the field
- review existing solutions
- design solutions that are scientifically grounded
- implement solutions in the field
- document, reflect & improve
- share inspiring practices

Specific objectives

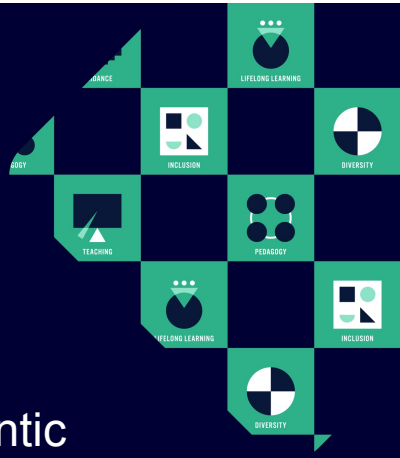
- analyse and evaluate different types of digital media and technologies in terms of their didactic underpinnings,
- select different types of digital media and technologies with regard to specified learning objectives,
- plan and implement the use of digital media and technologies in a meaningful way,
- document and evaluate the use of digital media and technologies with regard to teaching/learning processes and learning outcomes

Existing Solutions



- **Lecture students on “best practices” in EdTech**
  - have them remember those & test them on recall in an exam
  - have them apply these in classrooms to show that they know how to act
- BUT: they need to rely on our authority to “know” that these practices are “best practices”
- AND: if they encounter new issues then they might not know what “cards to pull out of the bag”
- AND: some of the tools that we might lecture them about will not exist in the future
- DOES NOT help them become creative problem-solvers and flexible educational designers

Our Solution

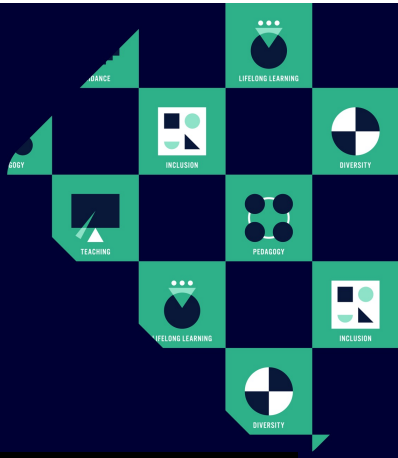


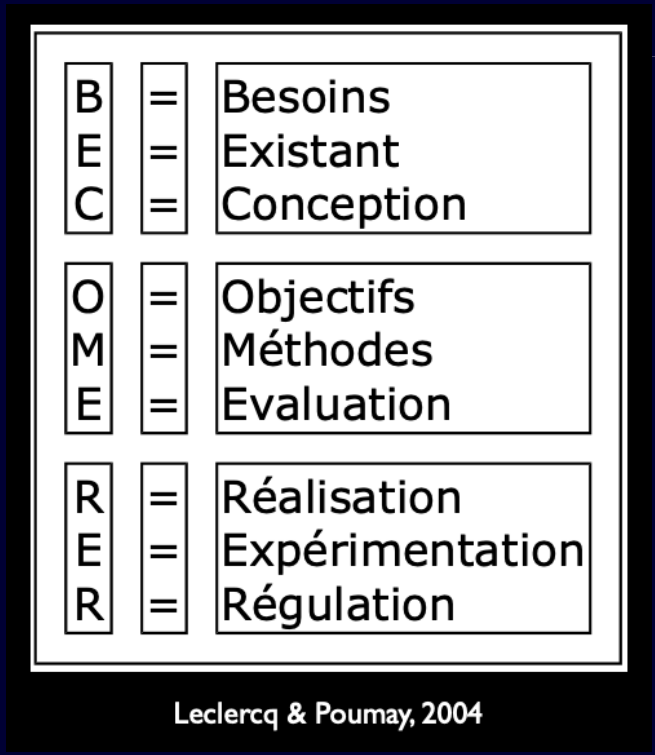
Workshops in Educational Design using a Project-Based Learning approach

- Engaging learning experiences that involve students in complex, real-world, authentic projects through which they develop and apply skills and knowledge;
- A strategy that recognises that significant learning taps students' inherent drive to learn, capability to do important work, and the need to be taken seriously;
- Learning in which curricular outcomes can be identified up-front, but in which the outcomes of the student's learning process are neither predetermined nor fully predictable;
- Learning that requires students to draw from many information sources and disciplines in order to solve problems;
- Experiences through which students learn to manage and allocate resources such as time and materials.

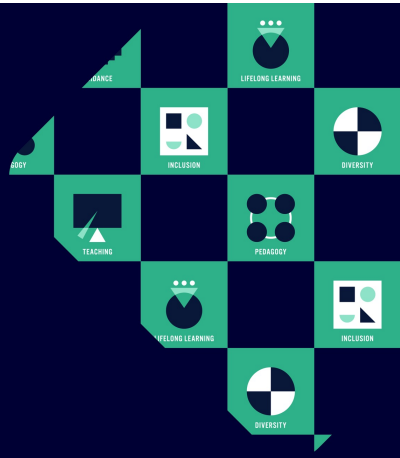
Tasks

1. Define an educational challenge situation
2. Review & analyse existing solutions
3. Conceive, design & plan ICT-enriched Learning Situations
4. Give & Get Peer Review
5. Plan documentation of Learning Processes & Outcomes
6. Enact one ICT-enriched Learning Situation
7. Document Learning Processes & Outcomes
8. Evaluate Learning Processes & Outcomes
9. Revise and adjust your integration strategy
10. Create a video teaser
11. Present your work during a Gallery Walk session





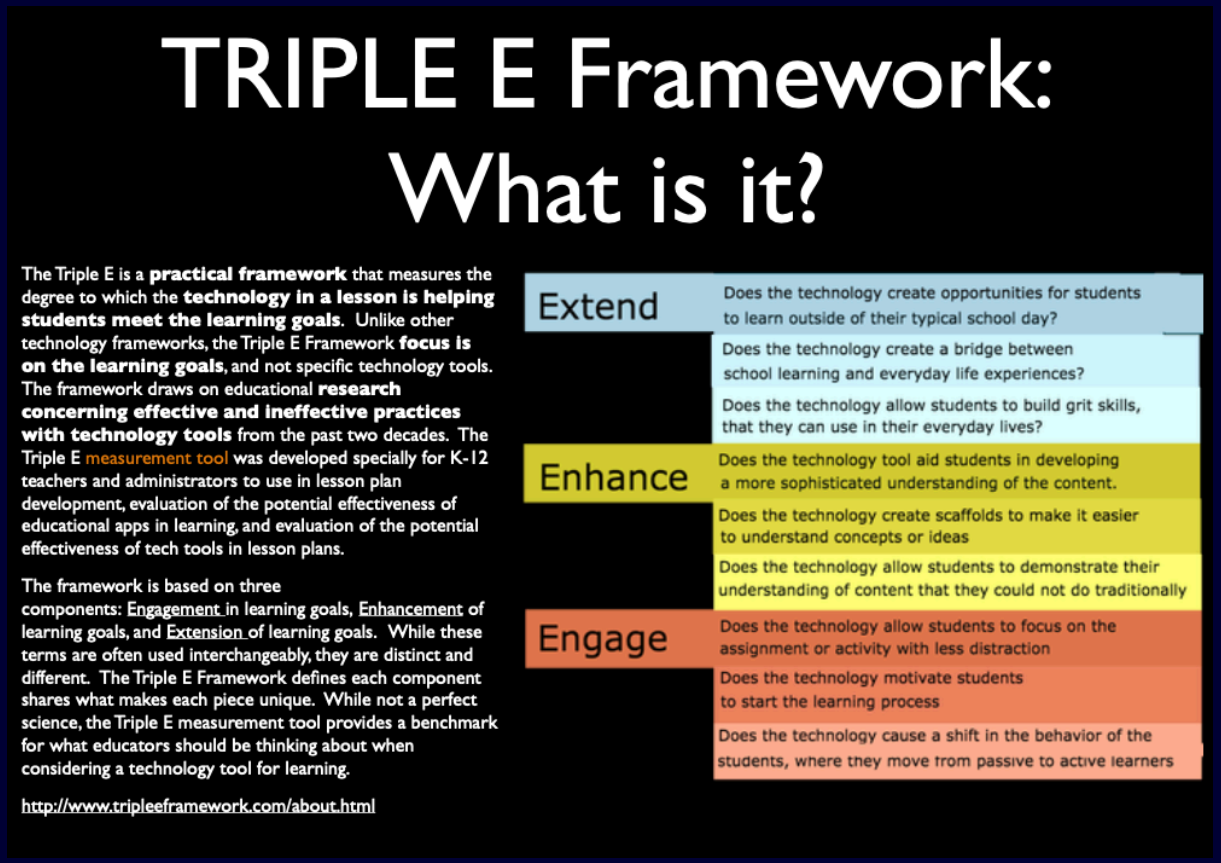
Products



Per technology integration scenario:

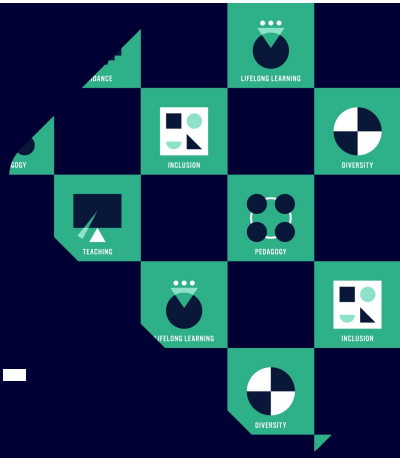
- Teaser video (problem, existing solutions, their solution, opt. insights from pilot testing)
- Detailed lesson plan for teachers
- Short description
- Illustrative material for Gallery Walk session

Resources



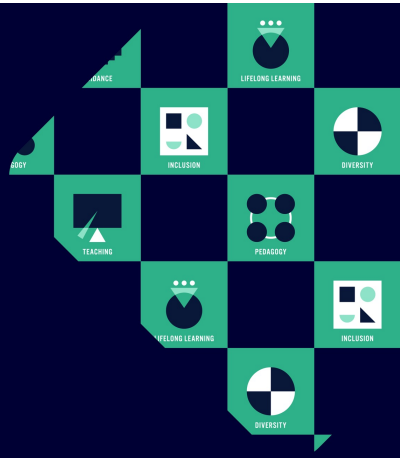
1. Their own TPACK from other courses in the BSCE
2. Taxonomy of Teaching & Learning Events (Leclercq & Poumay, 2005)
3. TRIPLE E Framework by Kolb (2017)
4. Examples from previous years
5. Two Coaches
6. Peer Review

Constraints



1. EdTech scenarios must be grounded in **socio-constructivist theories of learning**
2. Target audience must be pupils in K-6 & VP
3. One of the 3 scenarios must be tried out in a real-world setting, does not have to be a classroom/during their internship
4. Their voice must be hearable in the teaser videos

Sharing & Publishing

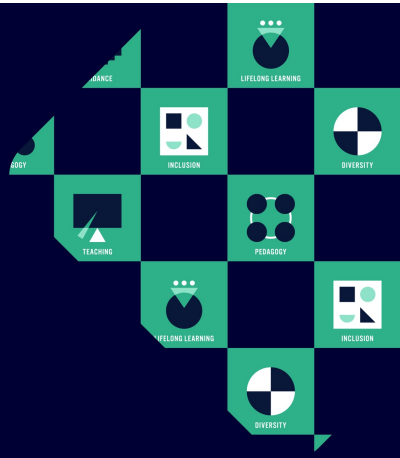


- Presenting & discussing their EdTech Practices with teachers from the field during a CPD session at IFEN
- Sharing inspiring EdTech Practices with the world: oer-bsce.uni.lu

Observations

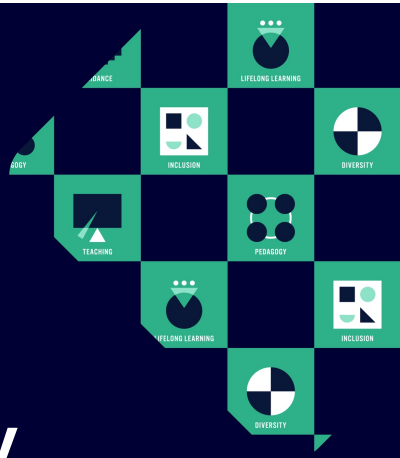
1. Generally well-received course
2. Great feedback from professionals
3. Some students struggle with this project-based approach, but they might also struggle with more “directed instruction” approaches
4. Not easy to create “community of learners” culture
5. Rooms in MSA are less than ideal

Observations



Show examples of products

Conclusions



Our innovative teaching approach aligns with the **ever-evolving landscape of education**, where **adaptability** and **creativity** are highly valued.

As we prepare our students to **become future professionals**, we **empower** them to think beyond conventional approaches and **challenge the status quo**.

The “EdTech design projects" are **not just assignments**; they are **catalysts for transformation**, fostering a **culture of innovation and excellence** in teacher training.

Let’s keep in touch

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