GRE@T-PIONEER

Engaging students in computational and experimental reactor physics

ENEN Special Event

March 3, 2022, online

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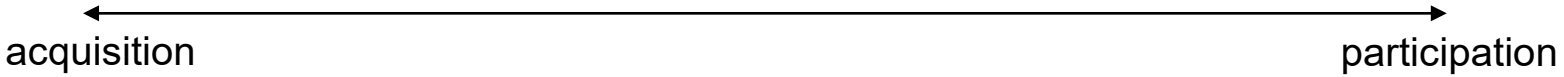
LEARNING…

- **Learning** is an **incremental process**
- **Several dimensions**:



Sfard, A. (1998). On two metaphors for learning and the dangers of choosing just one. Educational researcher, 27(2), 4-13.

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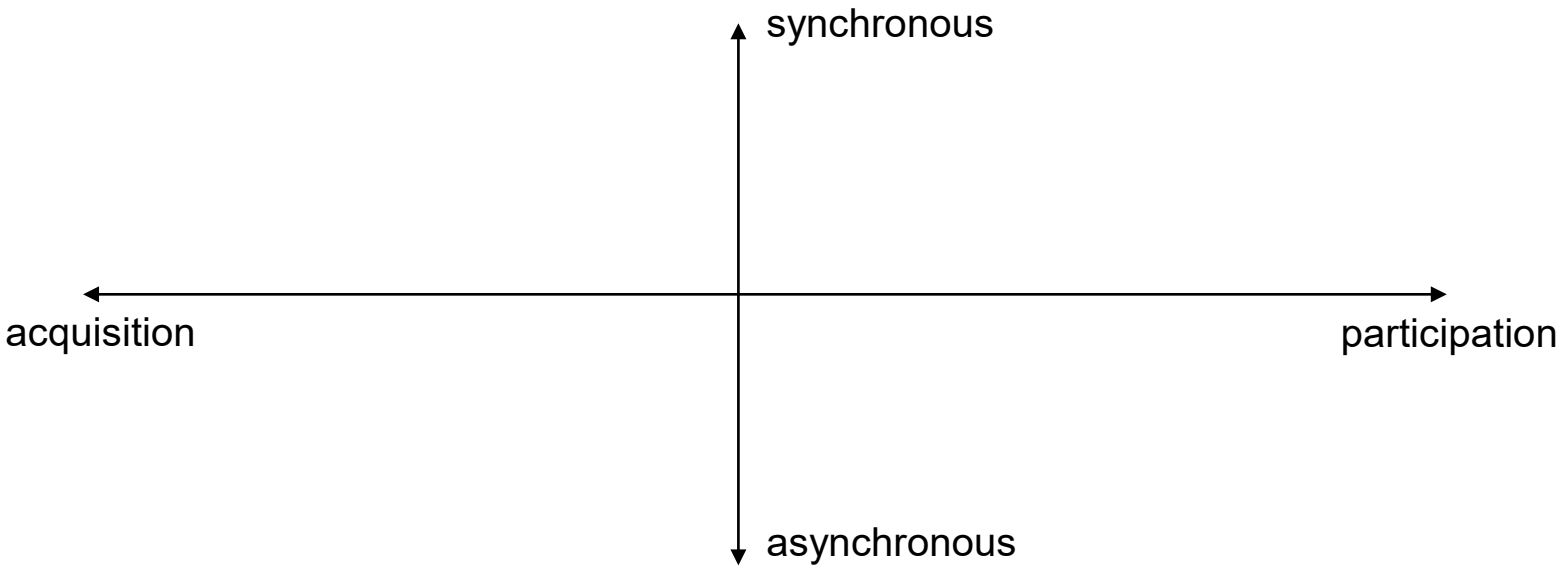

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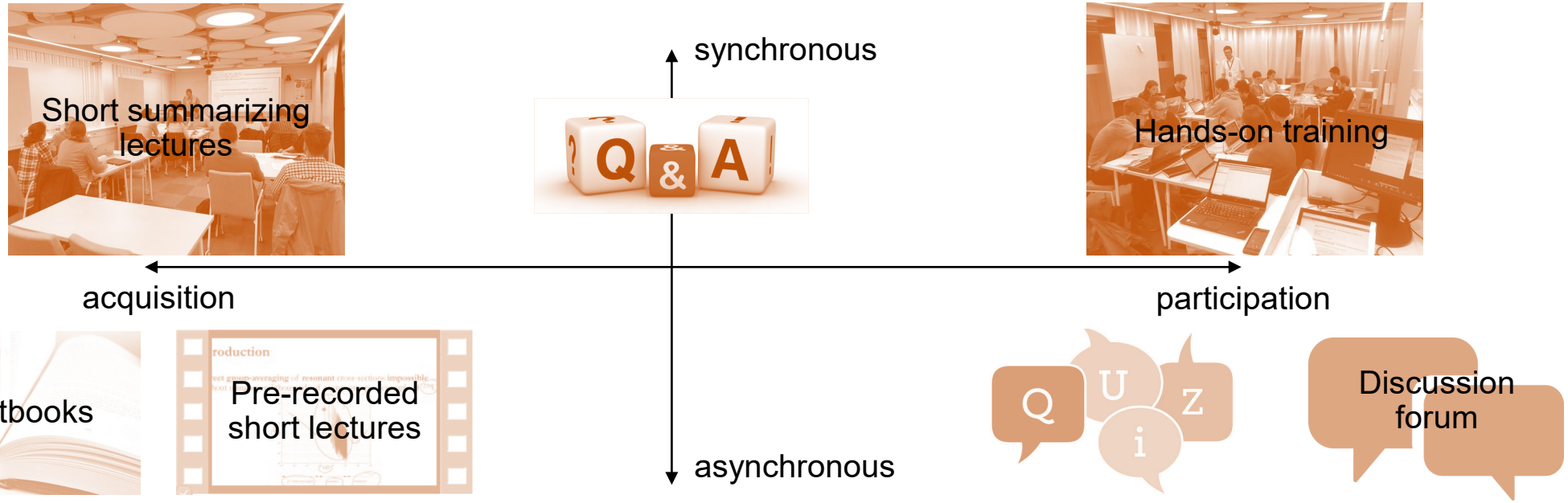

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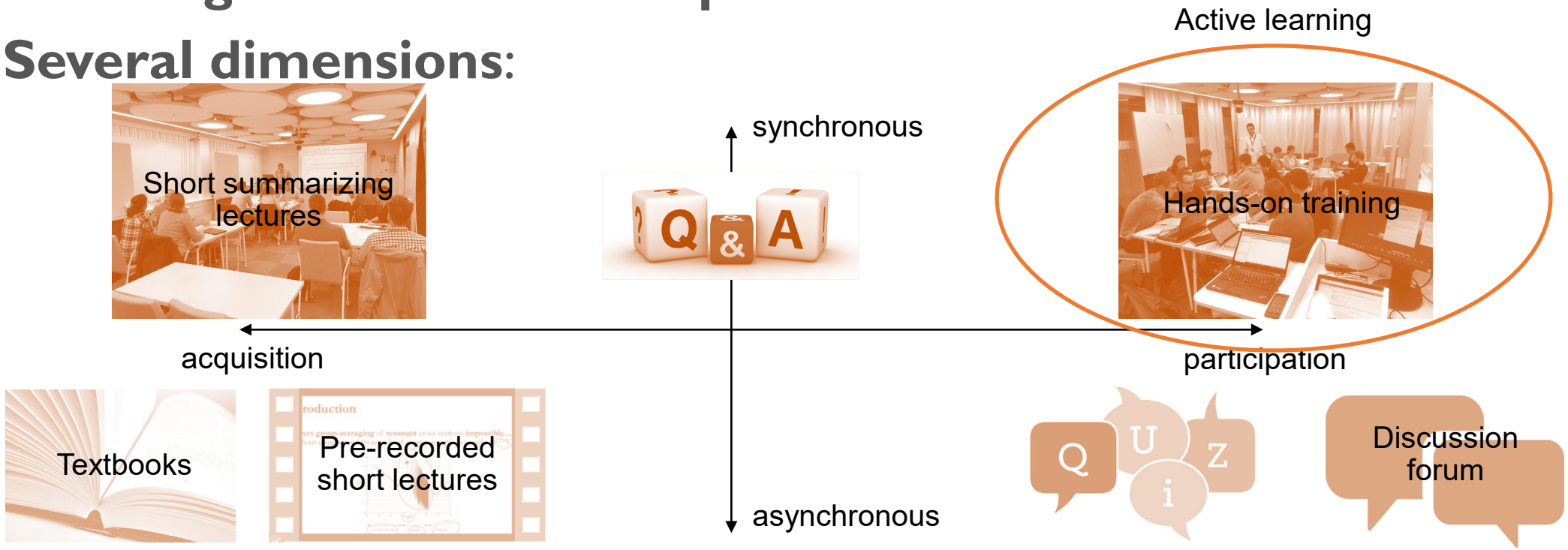

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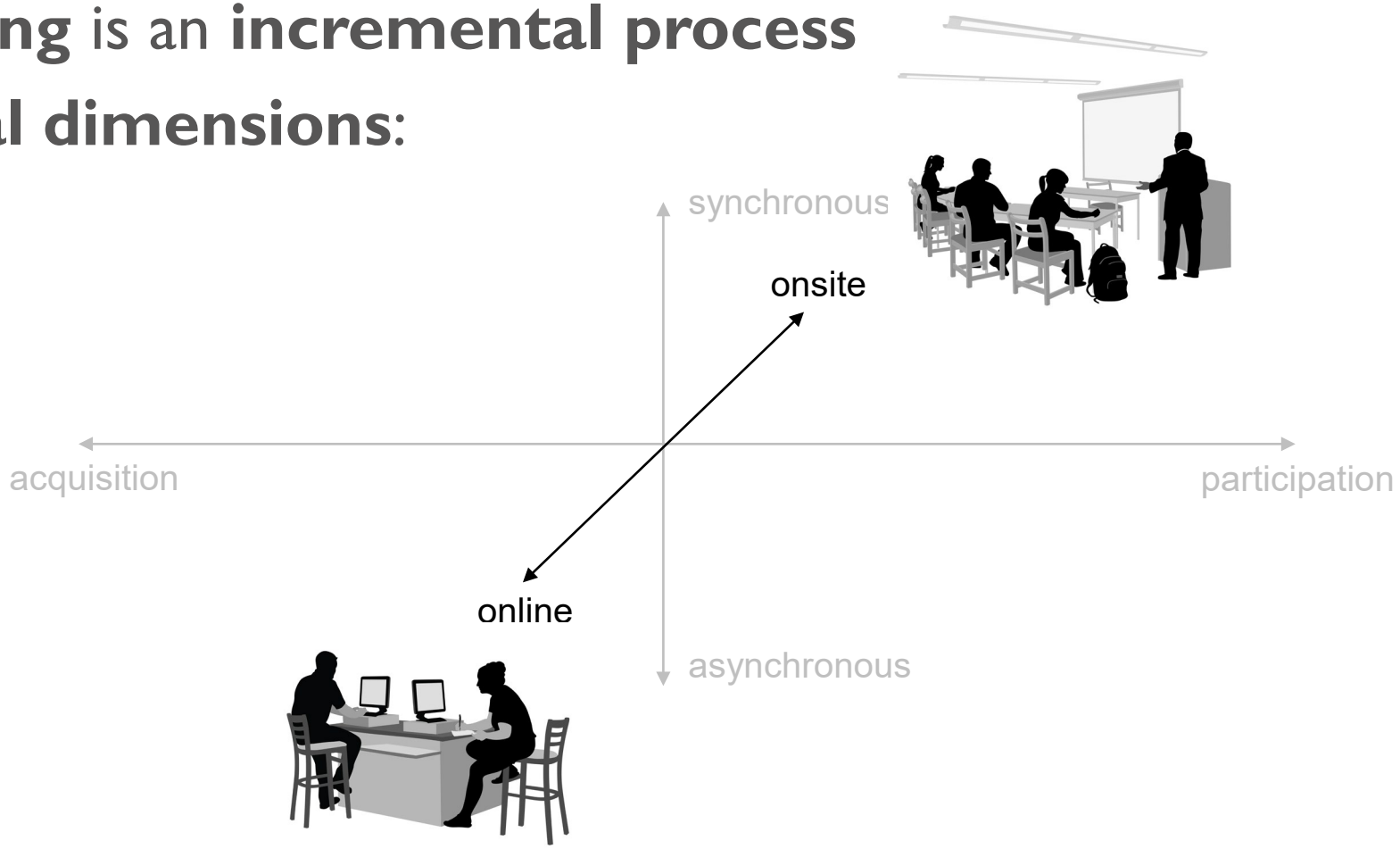
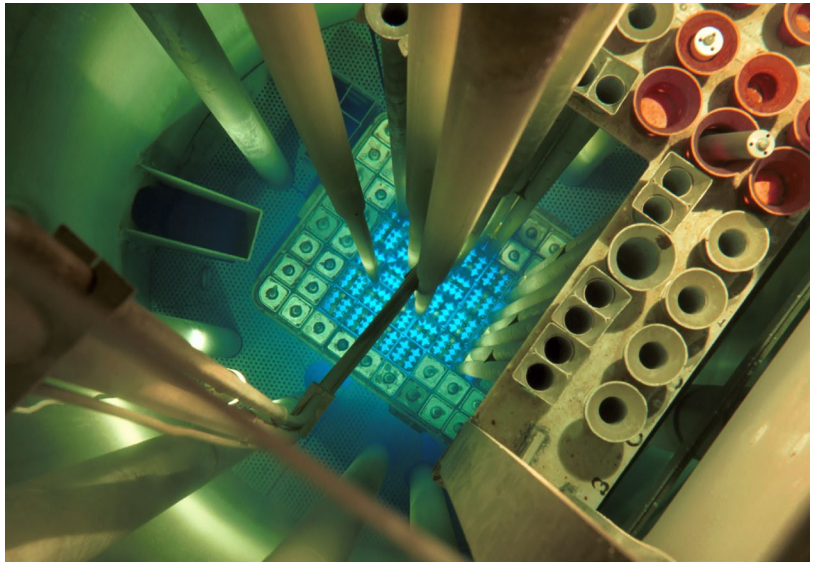


ACTIVE LEARNING

- **Hands-on** exercises:
  - Relying on the use of 3 **training reactors**:

AKR-2
TUD, Dresden, Germany

CROCUS
EPFL, Lausanne, Switzerland



BME Training Reactor
BME, Budapest, Hungary

ACTIVE LEARNING

- **Hands-on** exercises:
  - Relying on **computer-based modelling** and **simulations**:
    - Either **using existing tools** (commercial and open-source)
    - Or **implementing algorithms** in computing environments

COURSE OFFERING

- **6 course modules** being developed:
  - Nuclear cross-sections for neutron transport
  - Neutron transport at the fuel cell and assembly levels
  - Core modelling for core design
  - Core modelling for transients
  - Reactor transients, nuclear safety and uncertainty and sensitivity analysis
  - Radiation protection in nuclear environment
- Teaching materials **being developed**
- First course modules to be offered in **November 2022**

Thank you!

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