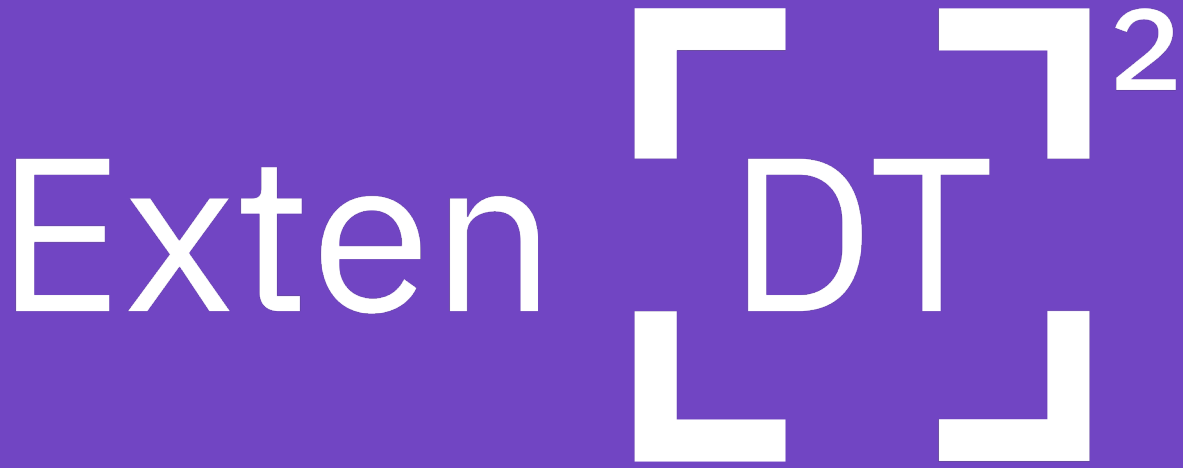

OMT Meeting: 9 December 2022
Research Questions for Evaluation

Research Questions

- Objectives of the research – project as a whole (first paragraph)
  - To use ET to enhance the pedagogic value of DT.
  - To use DT and PD to increase the use of ET in education.
  - To use ET to support pedagogic transformation via DT projects which foster 21st C skills.

Things we have said we will do

- “teachers’ input on both collected data and data analysis will be analyzed by the researchers to develop understanding of teachers’ perceptions and possible biases for students’ learning process and performance.”
- Use ET to develop students’ Knowledge, Competencies and Skills (teachers/students?)
- Collaboration, communication and sharing to be enhanced through nQuire and co-creation planet (teachers?)
- “use and evaluate the two online platforms, nQuire and co-creation planet as “safe spaces" for communication and sharing of personal creations” (students?)
- Develop and evaluate students’ problem-solving skills and knowledge of STEAM concepts and socio-scientific wicked problems
- “evaluate and refine what student information (data) is valuable to be captured”
- “develop a critical understanding of the potential, opportunities, barriers, accessibility issues and risks of using emerging technologies for teaching and learning using Design Thinking, from multiple perspectives.” (students, teachers, pedagogic and technical partners)

We also said….

- In cycle 1:
  - "The evaluation will include quantitative and qualitative data from the **needs analysis**, **planning** and **co-creation** activities with stakeholders; professional development activities; and classroom implementations with students, taking place in each country"
  - "The needs analysis will be done at two levels: i) a literature review on DT with the named emerging technologies to identify potential issues, needs and opportunities (WP2) and ii) a close collaboration of teachers, pedagogic partners and technical partners, to discuss and identify a relevant sub-set of issues, needs and opportunities to the specific school contexts" (to inform initial decisions in WP4)
  - 2x in-depth exploratory case studies per country
  - Data collected from needs analysis, planning and co-creation activities

Summary from RQ meeting 30/11/22

- 3 aspects of the evaluation:
    - Technological – how tech can support teachers and students
    - Pedagogical – evaluate the DT phases with students and teachers
    - Professional development – process and outcomes with teachers and others

Evaluation ideas

- Evaluate learning (students and teachers)
- How evaluation can be used for learning (students and teachers?)
- Evaluation and LO need to align (teachers & researchers)
- Consider RCTs to exclude school context etc influencing outcomes

Focusing on tech (WP4 & 7)

- How can we untangle the impact of tech not being ready on LO
- Evaluate the design of the tech with students before it enters the classroom
- Can dashboards help students monitor themselves?
- Use LA to evaluate the learning process and learning outcomes
- What types of data shall we visualise on the dashboard & why?
  - Accessed by teachers AND students???
  - Should it align with 21stC skills, DT & DC?
  - Can we capture individual progress in group activities?
- What are teachers' impressions of the dashboard? How does their previous knowledge and perceptions affect that?

Focusing on teachers (WP3, 5, 6 & 7)

- What teachers (need to) learn
- What supports and forms of support do they need?
- How co-creation compares to other forms of PD.
- Teacher attitudes to tech and DT
- How does our research generate new teaching and learning practices?
- Transferability of PD approach to other ET.
- Will teachers do “it” again in the future?
- Pre/post DT activity measurement
- What do they learn over time?

Focusing on students (WP 5 & 7)

- Are DT activities group or individual work? This affects student outcomes.
  - Record student conversations?
  - Malt2 – record justifications for answers???
  - Joint visual attention and emotion capturing