An Adaptive Trust-based e-assessment System for Learning

Social dimension of e-learning – Addressing challenges through QA

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Athens
12nd-13th December 2016

Funded by
the European Union

Project Number: 688520 – TESLA – H2020-ICT-2015/H2020-ICT-2015
Agreement Number: 688520

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Content

- (e) Learning
- TEL
- (e) Assessment

- Problem not solved

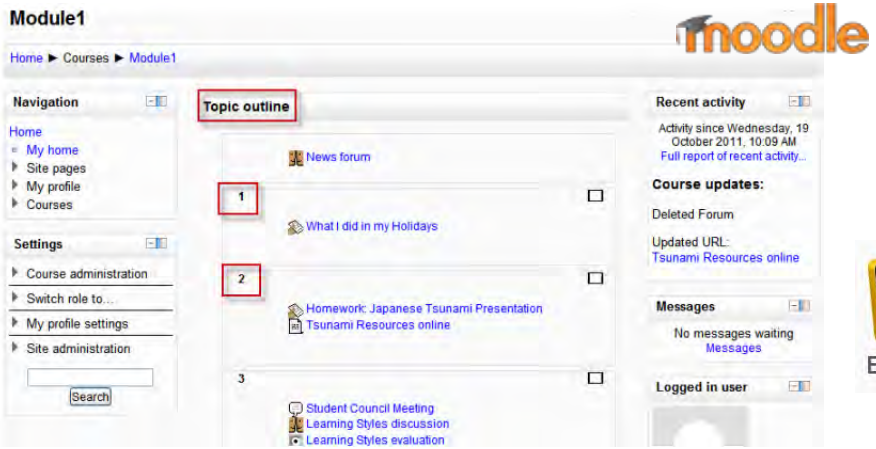
- TeSLA project
- Role of QA
- Trusted learning from e-assessment

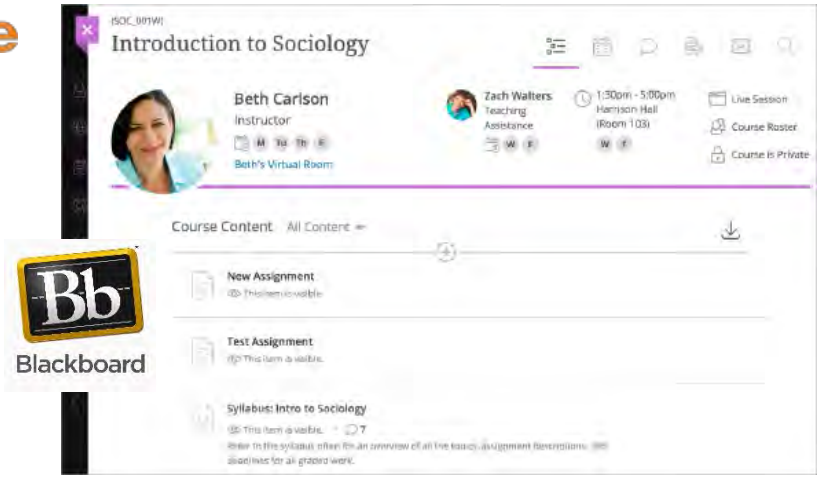
(e)Learning

- ✓ The teaching and learning process is conducted (totally or partially) through the **net**
- ✓ Use of **ICT tools** and resources
- ✓ Teacher as a **facilitator**
- ✓ Learner: **autonomous,** responsible, **(pro)active**.
- ✓ Personalised and continuous feedback

Technology for Enhancing Learning

- ✓ **Wide range** of LMS & VLE
- ✓ From repository (content-based) to **learning environment** (activity-based).
- ✓ Contains communication, collaborative, creation, assessment, and/or external tools.
- ✓ Some of them promote the **social dimensional** by providing additional spaces.
- ✓ Usually contains an **assessment system to publish marks**.





Definition of (e) assessment

E-assessment is a continuous electronic assessment process where information and communication technology (ICT) is used to present, solve, record and evaluate assessment activities (Crisp, 2007).

This includes an end-to-end assessment process from the perspective of:

- ✓ learners and tutors,
- ✓ learning institutions,
- ✓ awarding bodies,
- ✓ and the general public (JISC, 2007).

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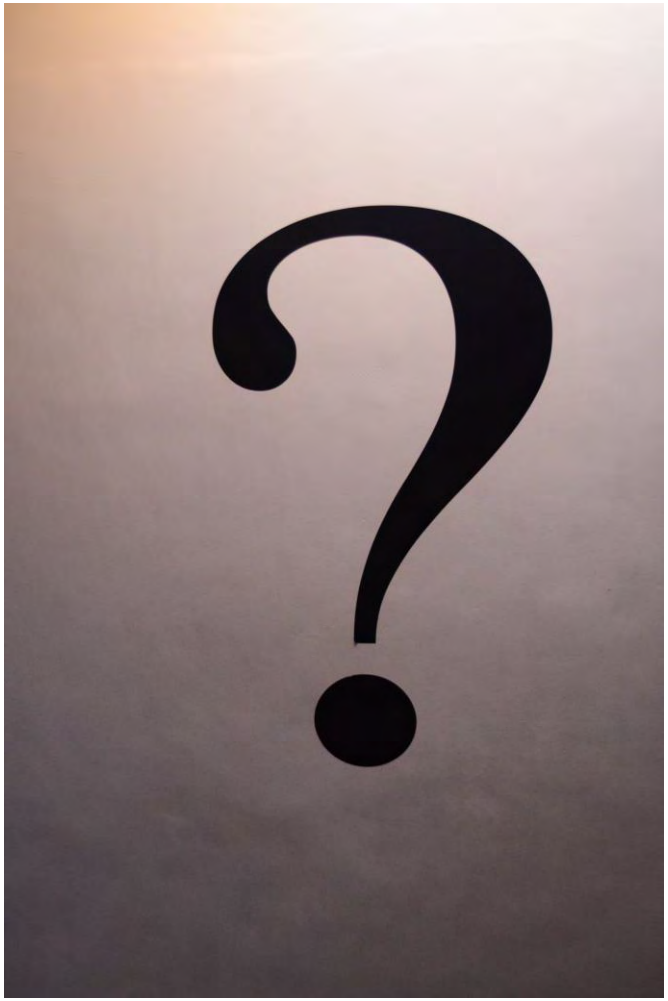
Considerations on e-assessment

- ✓ Summative, continuous and formative **assessment models coexist**
- ✓ Activities **easy to correct** (i.e. tests, multi choice exams) or **automatic** correction activities **proliferate**. But a **personalized feedback** must be mandatory.
- ✓ Continuous assessment combined with **final exams.**
- ✓ Blended/Online universities maintain **on-site final exams.** It is considered the most **reliable** way to verify **students identity.**



Unsolved:
Authentication and Authorship

Challenge for a trusted e-assessment

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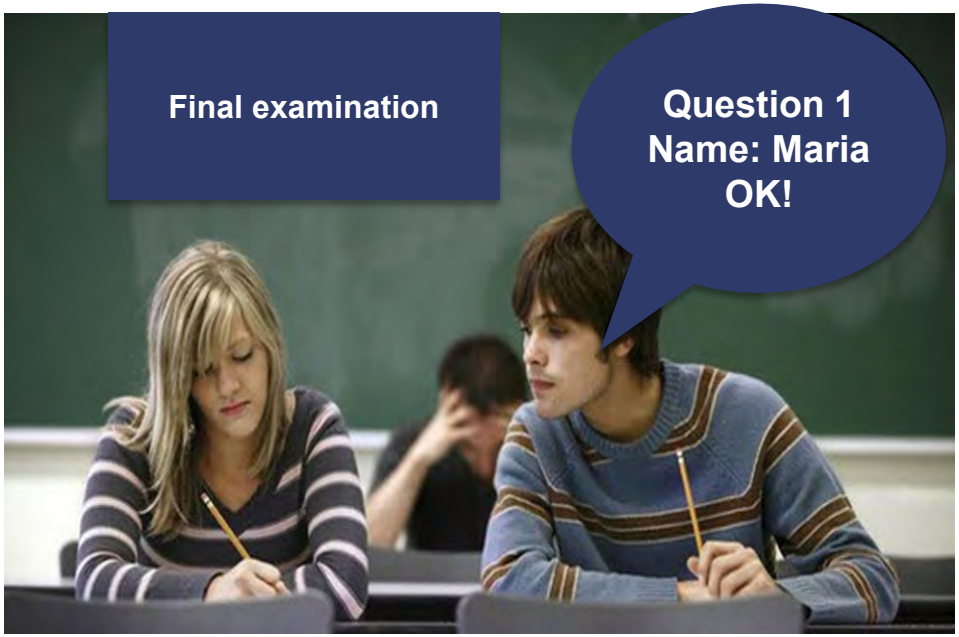
Traditional exam/assessable activity [crime_scene]

Crime Scene

Trad copy



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Online exam/assessable activity [trad_copy]

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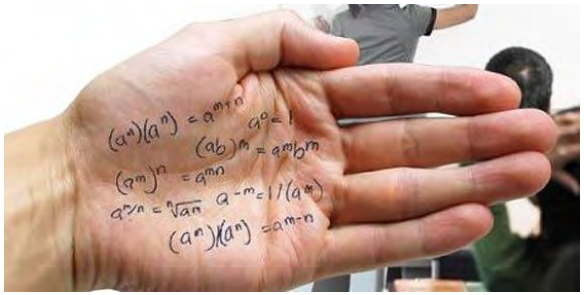
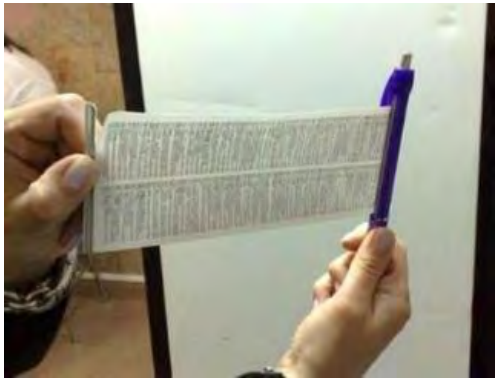
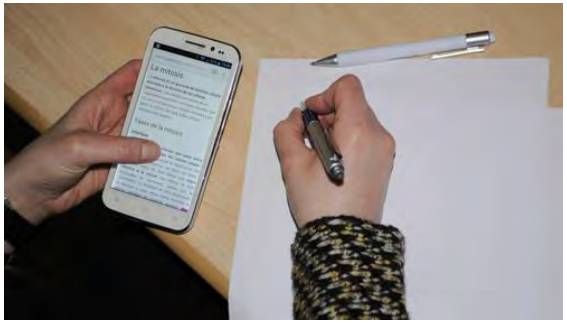
Traditional exam/assessable activity [unlimited_imagination]







Traditional exam/assessable activity [solution]

Solution???

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We need a real solution

- ✓ Flexible system that supports **diverse assessable learning activities and assessment models**
- ✓ A system that **verifies the identity** of students (authentication & authorship) and prevents from illegitimate behaviours (i.e. cheating, plagiarism)
- ✓ A **scalable** solution (that can be massively deployed), not invasive (no privacy issues) and **reliable**

Security measures can promote **trust** (among teachers, students, institution) increasing the assessment quality and the final certification.

An Adaptive Trust-based e-assessment System for Learning

Horizon2020 – INFORMATION AND COMMUNICATION TECHNOLOGIES
Topic: Technologies for better human learning and teaching.
Type: Innovation Action, with Large Scale Pilots.

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Consortium

18 Partners

8 Universities | 3 Quality Agencies | 4 Research Centers | 3 Enterprises

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Main objective

To define and develop **an e-assessment system**, which ensures learners **authentication and authorship** in online and blended learning environments while avoiding the time and physical space limitations imposed by face-to-face examination.

The TeSLA project will cover teaching and learning processes as well as **quality, ethical, legal** and **technological aspects**.

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Some specific objectives

O1. Analyse and design the most appropriate **learning activities** for e-assessment.

O2. To introduce **tools and resources** in the learning activities that **capture learners' data.**

O3. Con**duct several pilots** for ensuring the authentication and authorship of the learners during the e-assessment processes.

O4. Provide a **core version** of the TeSLA e-assessment system **free of charge** for educational institutions, and **a professional and commercial version.**

O5. Hold a set of **training** workshops for teachers for enhancing e-assessment processes.

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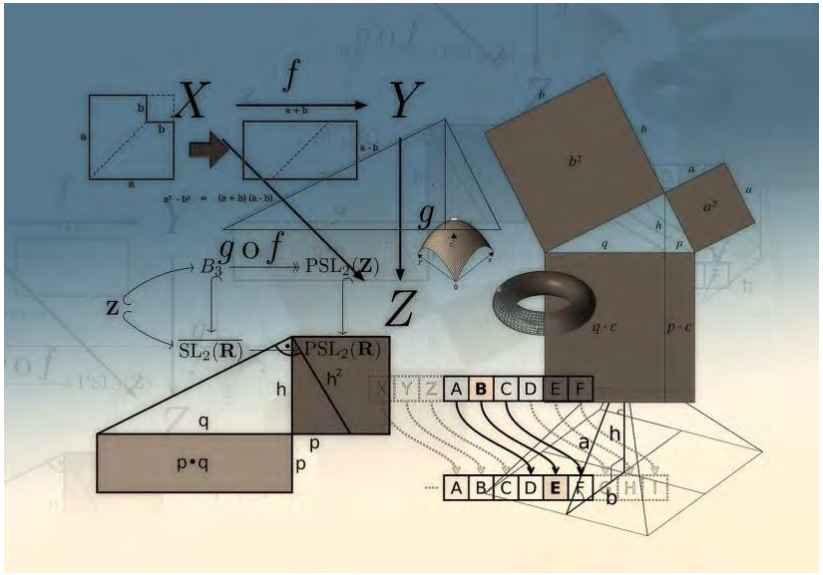
Tools and resources

Authentication: digital certificate, face recognition, keystroke dynamics, voice recognition, time stamp.

Authorship: plagiarism tool and forensic analysis. Linguistic techniques comparing creations from the same user and with Internet sources



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Work Packages

WP 1. Project Management (UOC).

WP 2. Requirements and modeling of the educational model (UOC).

WP 3. Data privacy and ethics (Namur).

WP 4. Quality assurance in online higher education (AQU).

WP 5. Design and implementation of trusted assessment mechanisms (Lplus).

WP 6. Integration of the framework in learning environments (Watchful).

WP 7. Design and development of pilots (SU).

WP 8. Pilots evaluation (OU).

WP 9. Communication, dissemination, liaisons and exploitation (protOS).

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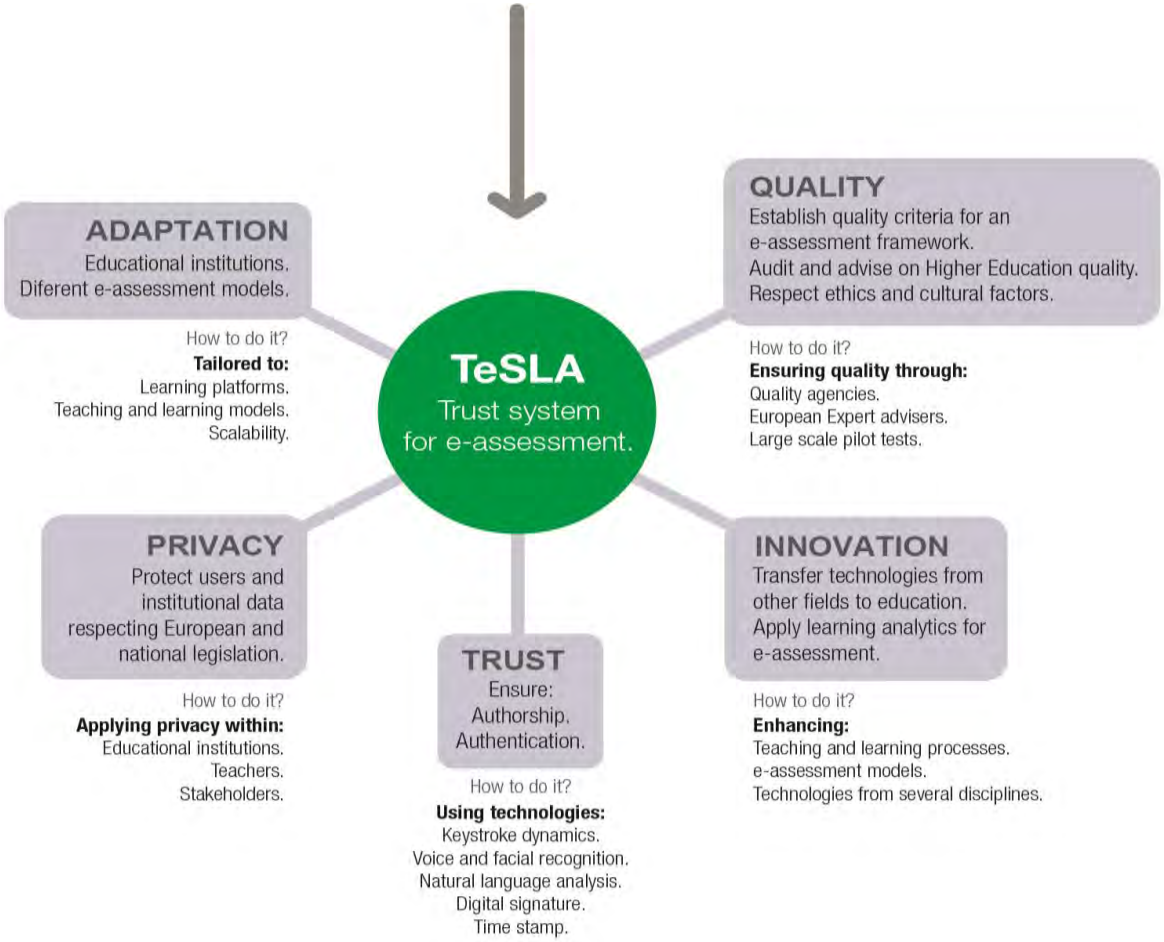
Summary



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WP 4. Quality assurance in online higher education

- ✓ Analyse the **European Standards and Guidelines** (ESG) taking into account the characteristics of online provision of educational offers by institutions and degree programmes.
- ✓ **Identification of the elements** to be considered in the system, in terms **of academic activities, competence evaluation, assessment models and the guarantees provided by technological systems.**
- ✓ **Propose a set of quality indicators** that will be used to assess the performance and achievements in the pilots and **verify the quality aspects of the pilots**
- ✓ Define a **framework for quality assurance** for e-assessment.

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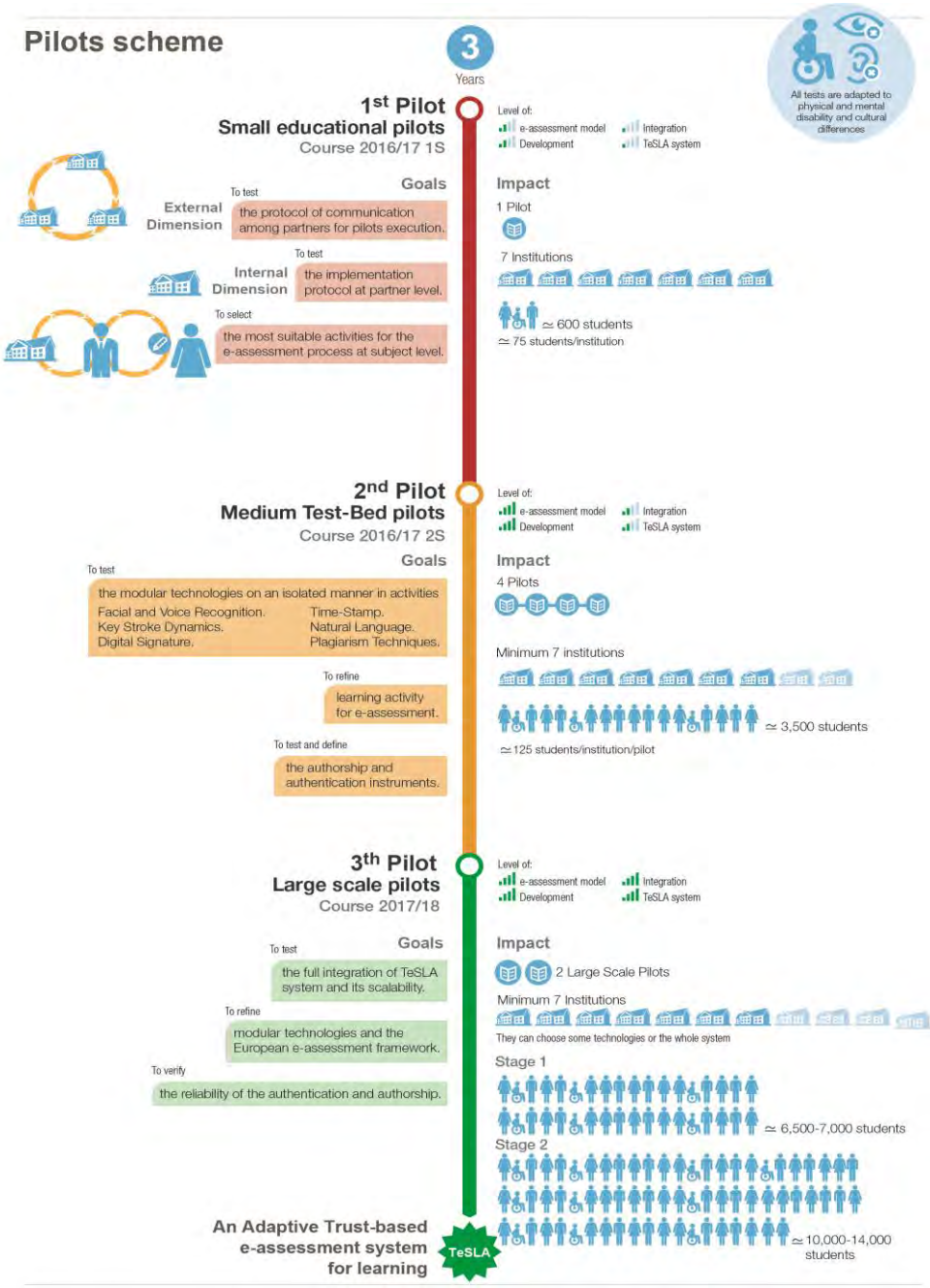
Pilots scheme



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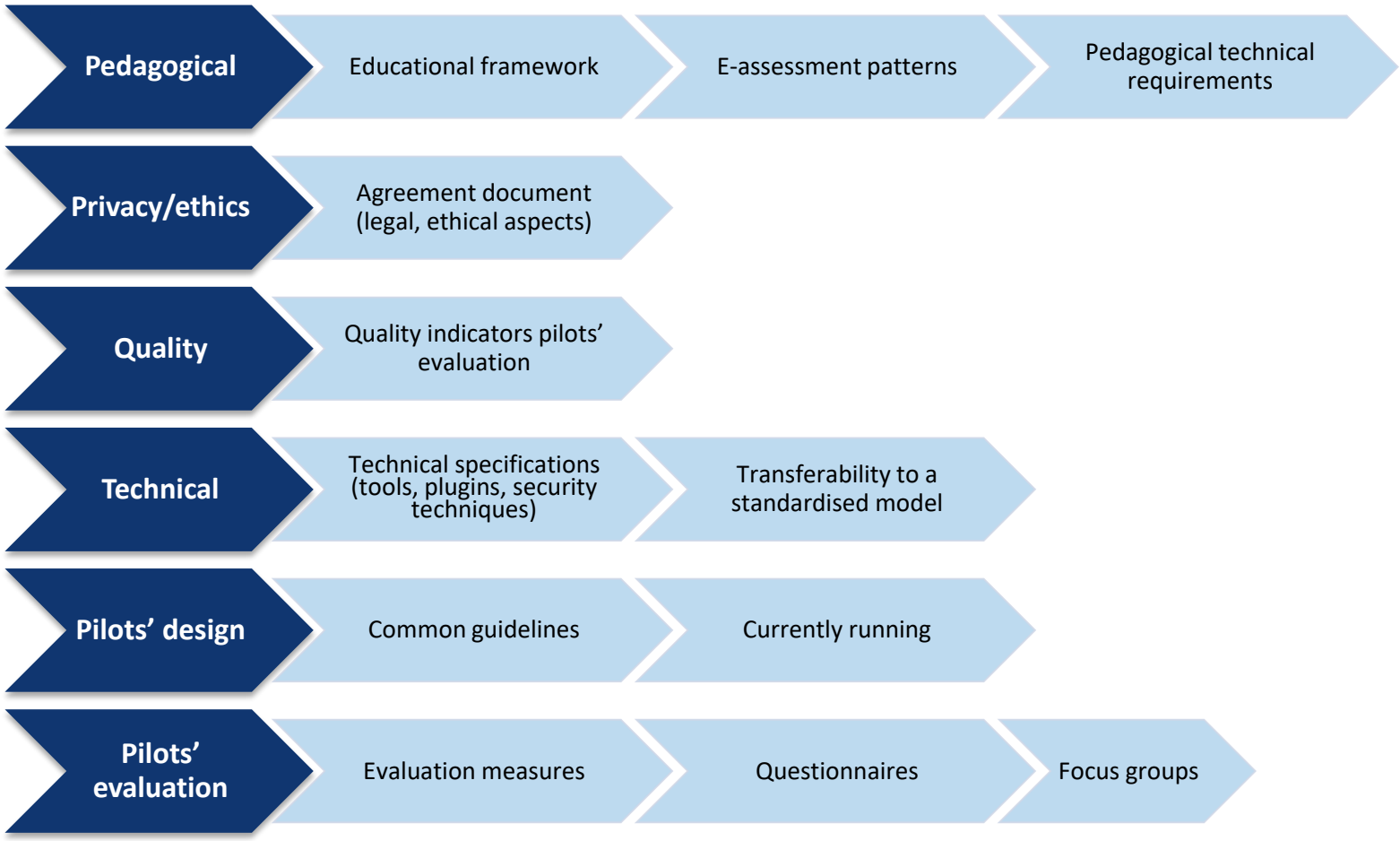
Preliminary results



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Thank you!

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