

eFiL : e-feedback for interactive lecture

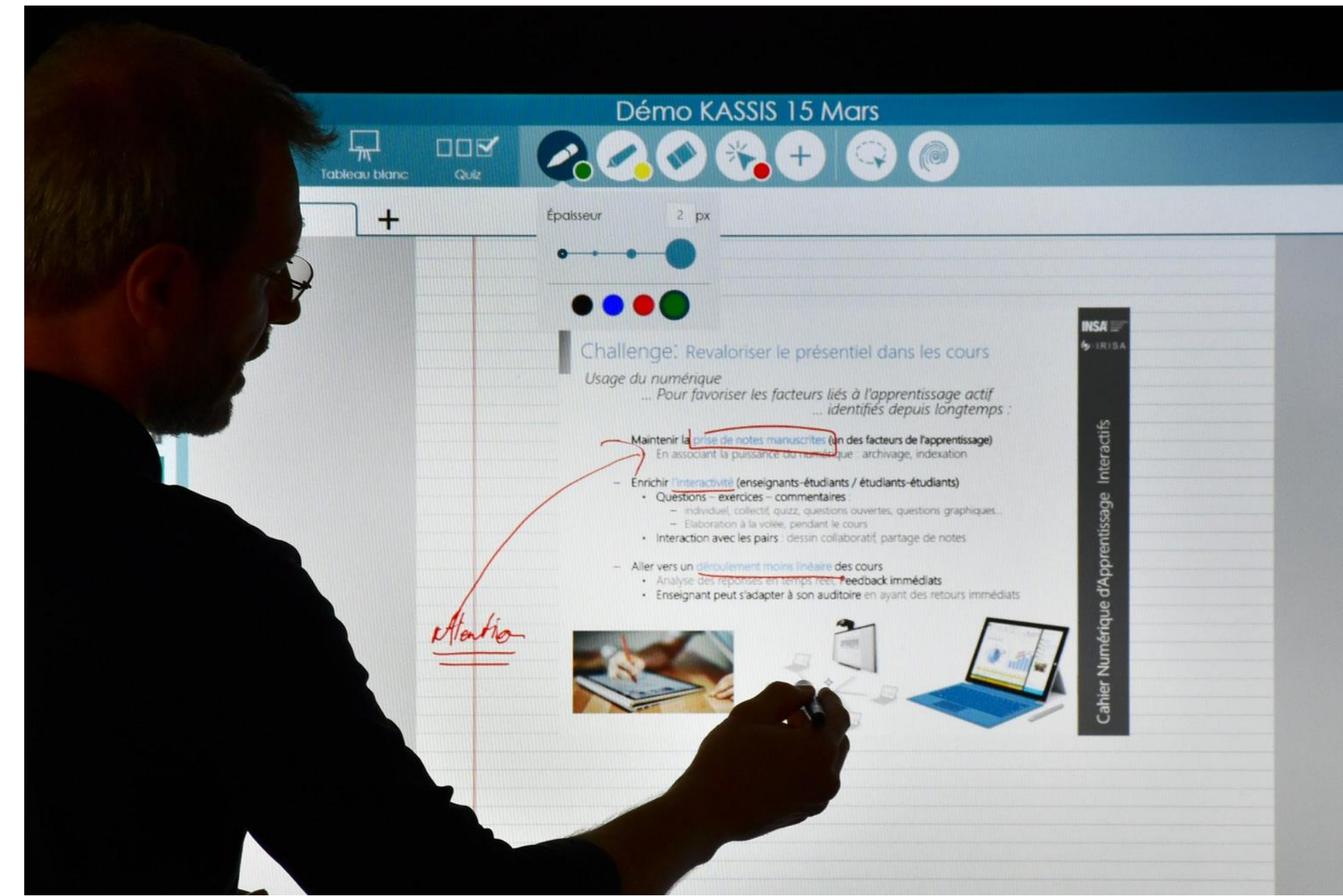
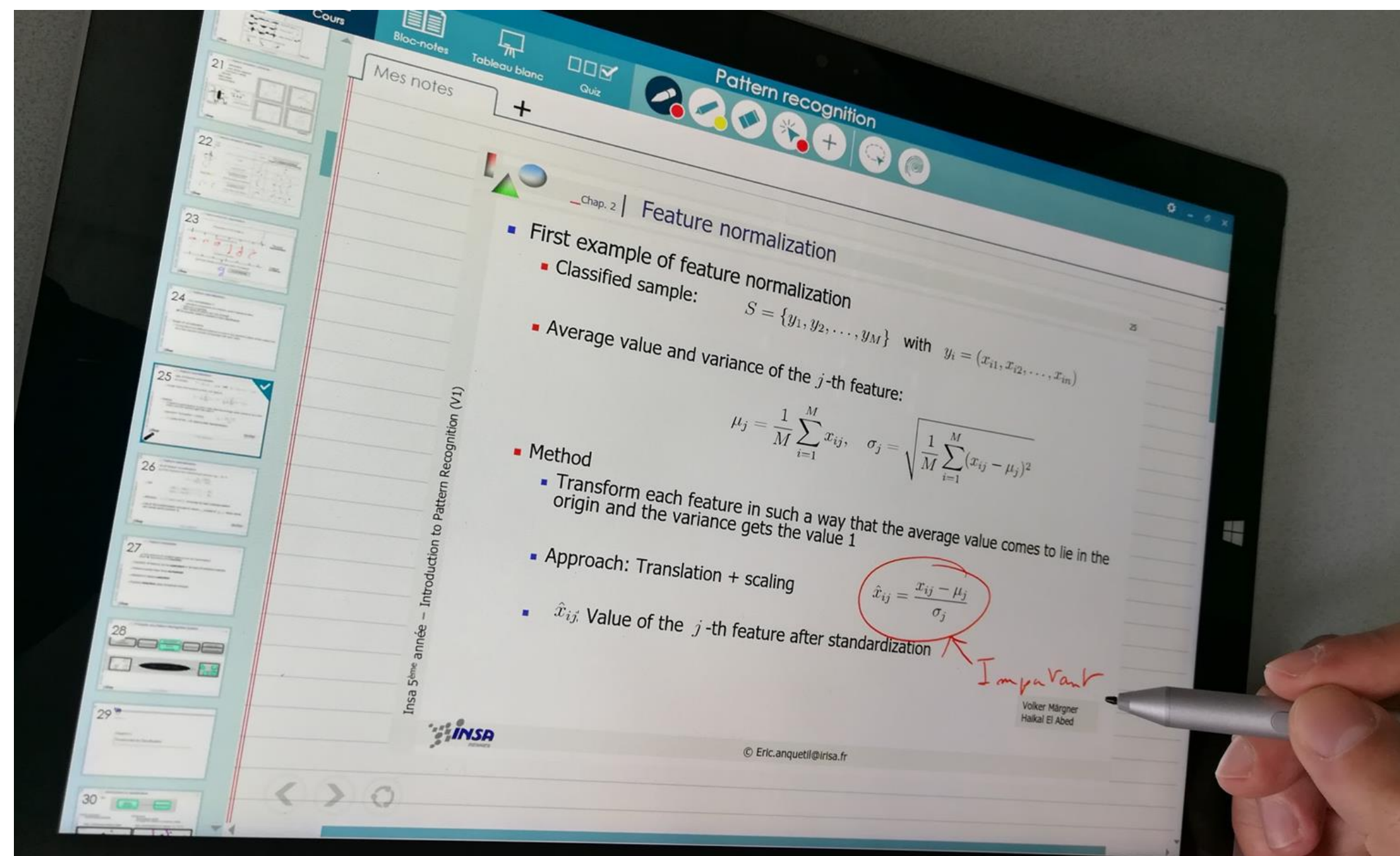
The aim of eFiL project

The aim of eFiL project is to promote classroom **active learning methods** in higher education, with three main objectives:

1. Improving the **KASSIS** digital active learning environment with **user-centered design**
2. Designing **user trace-based dashboards** for teachers to **monitor learning activities** and **reflect on their teaching activity**
3. Evaluating the eFiL learning environment with **students in lab and real settings**

Improving KASSIS: A digital learning environment for active learning

KASSIS is an innovative tool for classroom **synchronous teaching in higher education**. It focuses on active learning to encourage **handwriting on tablets**, **student-teacher interactions**, student **collaboration**, and immediate **feedback** generation. KASSIS has been designed and developed over the last two years at INSA Rennes, and was recently transferred to the Learn & Go start-up.



KASSIS relies on tablets equipped with stylus, coupled with an interactive screen (VBI)

Designing user trace-based dashboards for classroom activity monitoring and teacher reflection

Traces

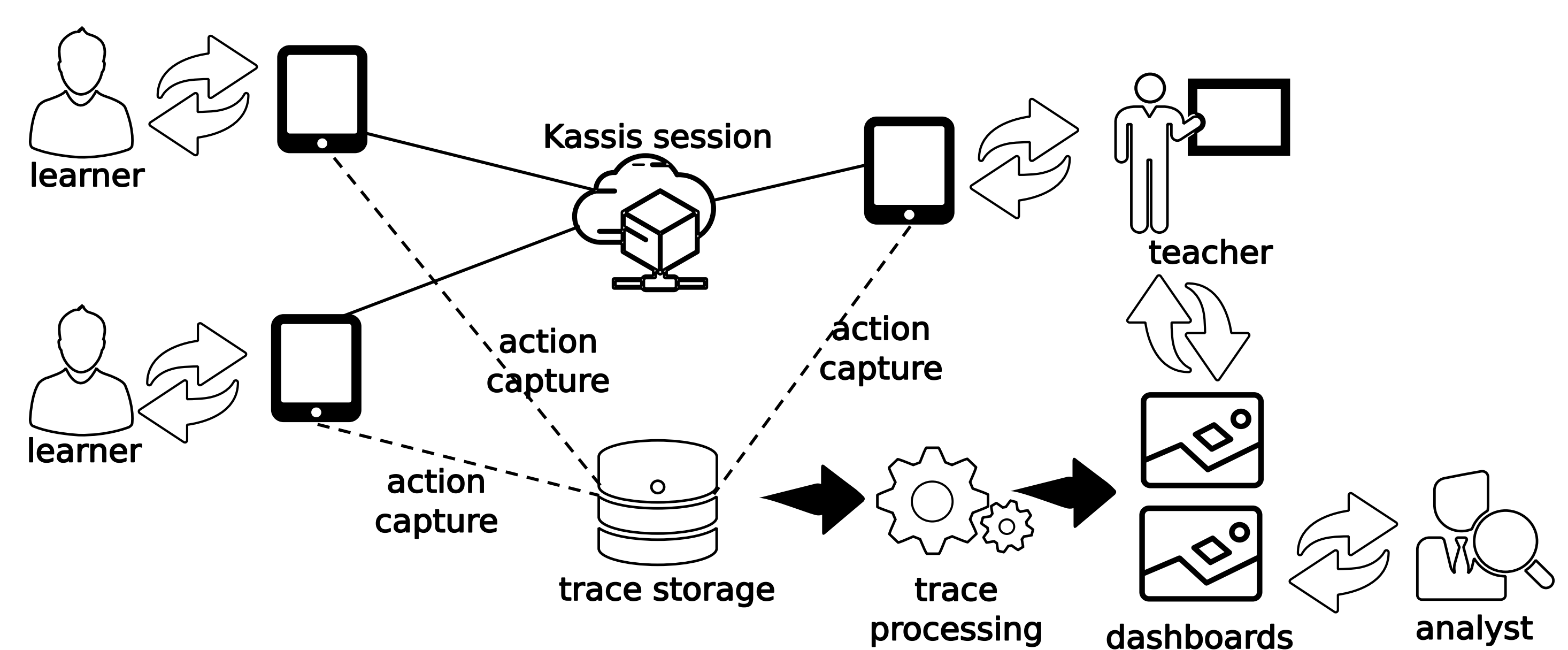
- Trace model/format inspired by xAPI
- Trace capture/storage
- Basis for Educational Data Mining and Learning Analytics

Teacher dashboards

- Indicators for action
- Real-time monitoring
- A-posteriori reflection

Analyst dashboards

- Process analysis
- Data mining



Evaluating the eFiL learning environment with students and teachers

Users' needs and user testing

- Analyze acceptability and identify users' needs
- Iterative user testing to improve interface and functionalities for note-taking, drawing, quizzes, dashboards

Writing and drawing with pen-based tablet evaluation

- Study 1: Note-taking efficiency with paper and pencil, pen-based tablet or keyboard
- Study 2: Effects of collaborative drawing on learning outcomes

Active learning, quiz and peer instruction evaluation

- Study 3: Effects of practice testing (quizzes) and feedback with KASSIS on learning outcomes
- Study 4: Effects of graphic feedback based on Peer Instruction method on academic performance

Monitoring & reflective dashboards evaluation

- Study 5: Effects of dashboard on classroom activities and user satisfaction