Interactive Video Experiments as a Chance for Inclusive Learning

**Idea**
- **Aim:** enable everyone to participate in the lab
- **Target group:** undergraduate students in a general chemistry lab
- **Solution:** interactive video experiments
- **Design principle:** interactivity, individuality and realism
- **Videos based on:** decision trees deduced from students’ real lab decisions

**Study**
- **Research Question:** Is it possible to foster practical lab skills through interactive video experiments compared to normal lab experiments?

**TREATMENTS**
- **Online lab** n=300
  - Interactive Experiment: Permanganometry
  - Paper-Pencil Test II
  - Paper-Pencil Test III (3 weeks later)

- **Normal lab** n=300
  - Lab Experiment: Permanganometry
  - Paper-Pencil Test I (N=600)

**FOLLOW-UP**
- **POST-MEASURE**
  - Content knowledge
  - Practical abilities
  - Subjective evaluation

- **PRE-MEASURE**
  - Demographics
  - Content knowledge
  - Practical abilities
  - Interest

**Sharing**
- Soon available on our website:
  - www.uni-giessen.de/dc

**Disproportionation of chlorine**
- **Solvation of marble in diluted hydrochloric acid**

**Paper-Pencil Test I (N=600)**
- Demographics
- Content knowledge
- Practical abilities
- Interest

**Paper-Pencil Test II**
- Content knowledge
- Practical abilities
- Subjective evaluation

**Paper-Pencil Test III (3 weeks later)**
- Content knowledge
- Practical abilities