



WATCHME

¹  Maastricht University

²  University of Reading

³  Universiteit Utrecht

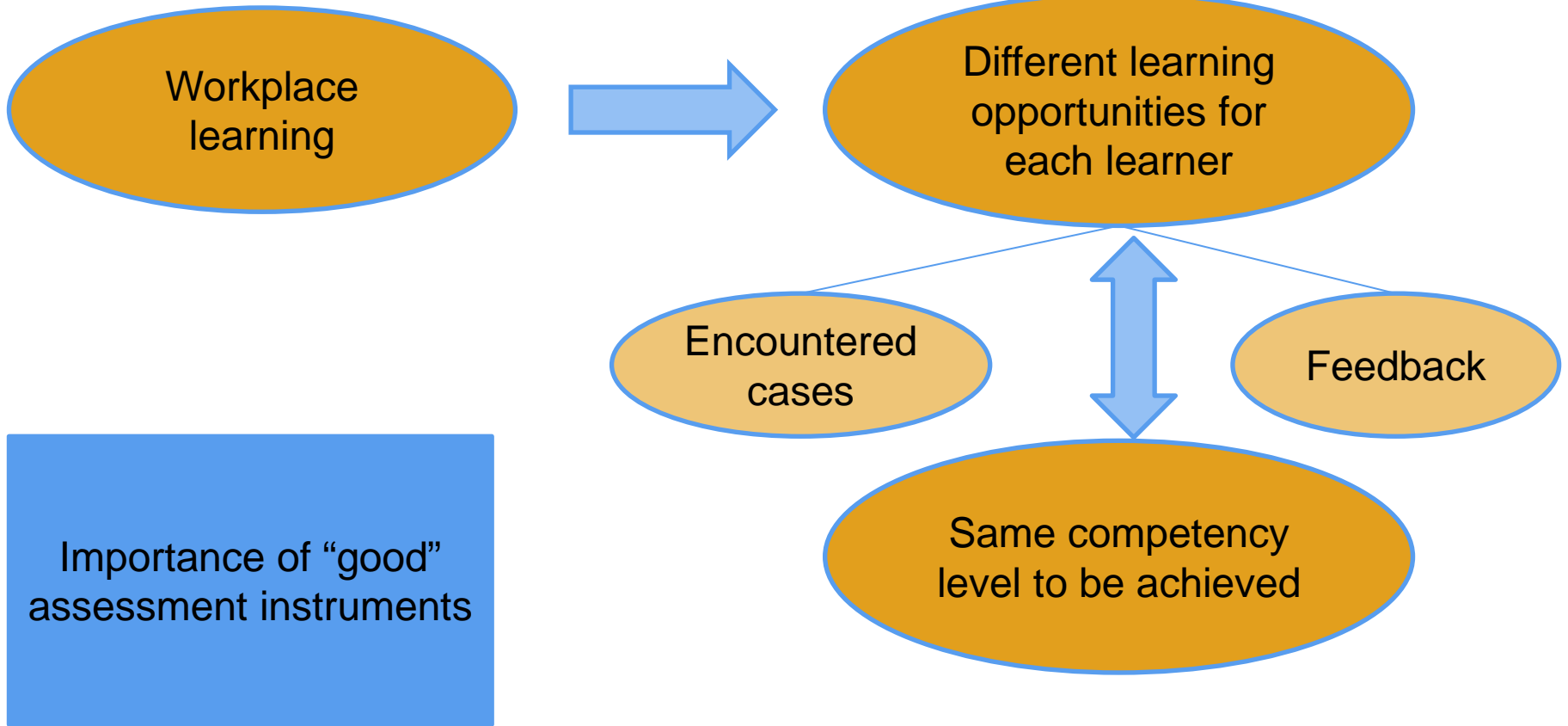
WORKPLACED-BASED E-ASSESSMENT TECHNOLOGY
FOR COMPETENCY-BASED HIGHER MULTIPROFESSIONAL EDUCATION

Participatory Design of a Learning Analytics enhancement E-portfolio: The Human Factor

Eelco Schreurs¹, Atta Badii², Annemarie Camp¹, Inge Duimel-Peeters¹, Ovidiu Şerban², Daniel Thiemert², Jaime Costa², Marieke van der Schaaf³, Jeroen Donkers¹, Geraldine Clarebout¹



INTRODUCTION



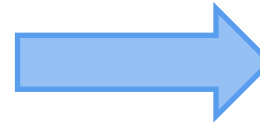
Importance of “good”
assessment instruments

INTRODUCTION

Importance of “good”
assessment
instruments

Measure required
competency level

Considering variety
of learning
experiences



(Electronic)
Portfolio

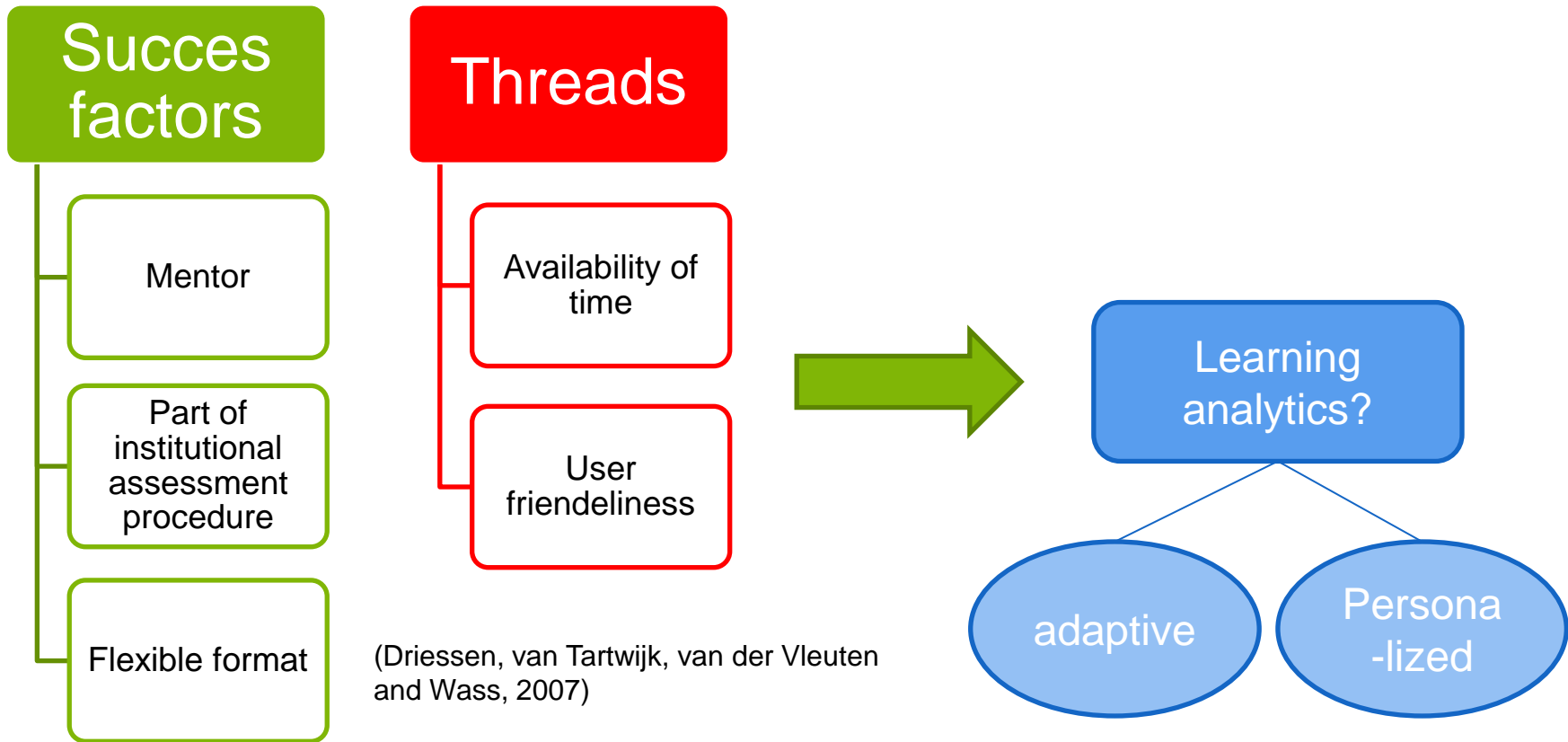


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- Work completed
- Feedback
- Progress made
- Reflections

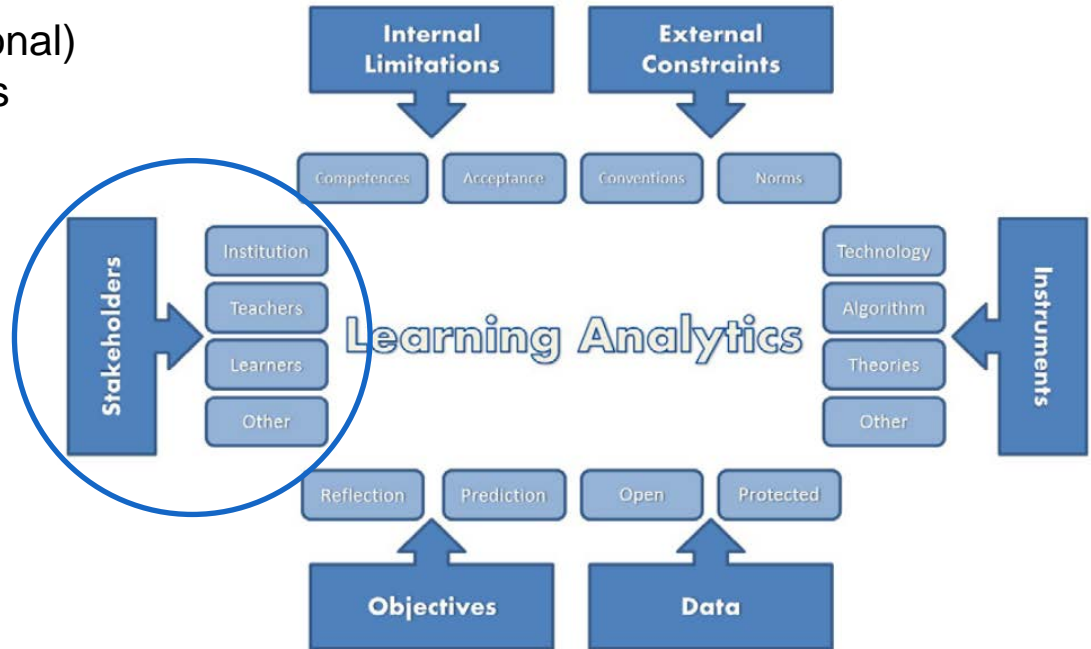
=> Longitudinal and multi-
faceted information (van Tartwijk,
Driessen, van der Vleuten & Stokking, 2007;
Sengler & Kanthan, 2012)

INTRODUCTION



LEARNING ANALYTICS WITHIN THE WATCHME PROJECT

- Learning analytics as (personal) probabilistic learning models
- Based on all information in electronic portfolio
- Computerized processing of large amount of data
- BUT: also human factor; initiated through interface (Dron & Anderson, 2009)



(Greller & Drachsler, 2012, p. 44)

RESEARCH QUESTION

Starting point:

Human-centred design approach → usability of e-portfolio ↗

Research Question

What are the needs and objectives of the different stakeholders ('the human factor') in relation to a learning analytics enhanced electronic portfolio assessment?

METHOD

Participants

Participatory meeting	Anaesthesiology	Veterinary Medicine	Teacher Education	Team Members
1	2	1	3	14 (10 technical, 4 educational)
2	4	1	1	3 (technical)
3	7 (5 physicians, 2 trainees)	-	-	9 (technical)

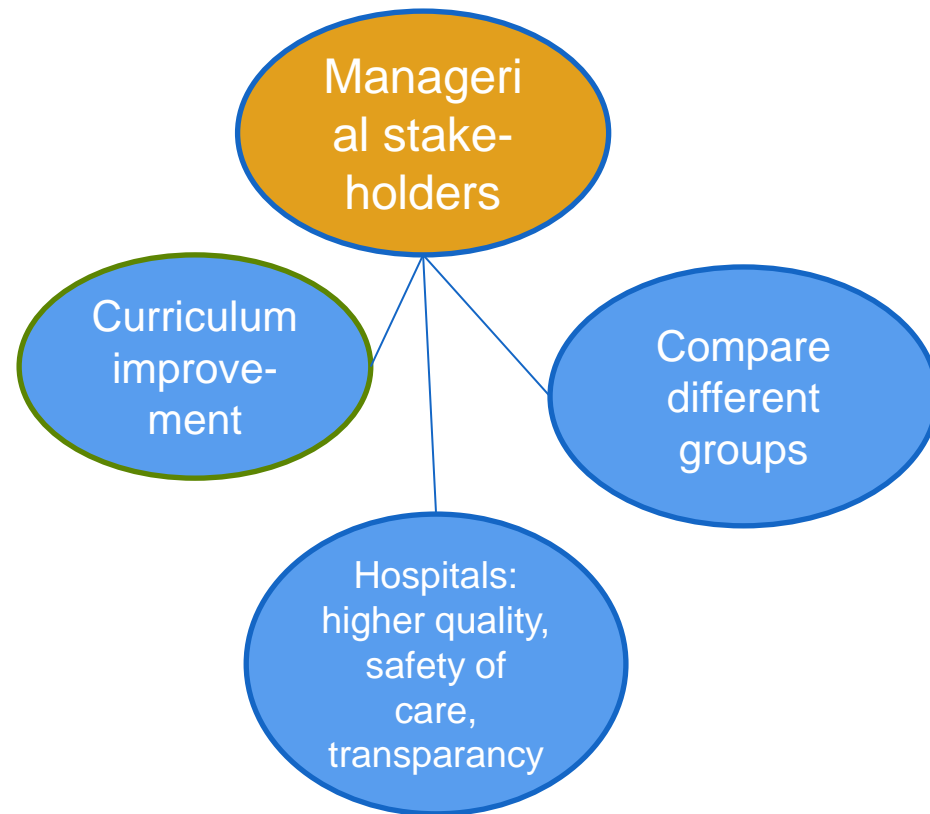
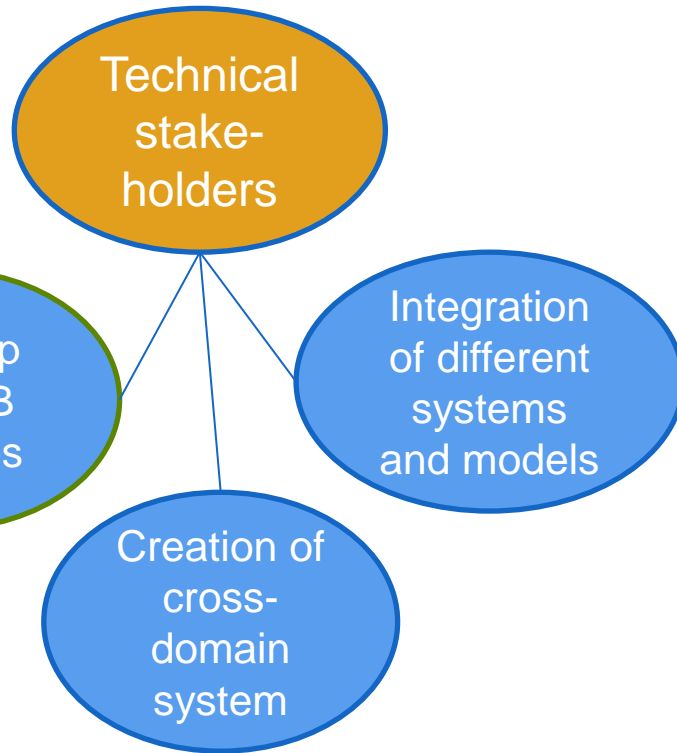
METHOD

Design

- Participatory design strategy (Berns, 2004; Könings, Brand-Gruwel & van Merriënboer, 2010)
- Three participatory meetings between May - September 2014
 - 1st participatory meeting
 - visualise the landscape in which the WATCHME-project and its stakeholders will exist.
 - 2nd participatory meeting
 - visualise the landscape for each domain (veterinary medicine, anaesthesiology and teacher education)
 - 3rd participatory meeting
 - => ideas and requirements for just-in-time feedback
 - => ideas and requirements for the visualization module
 - => ideas for building a student model

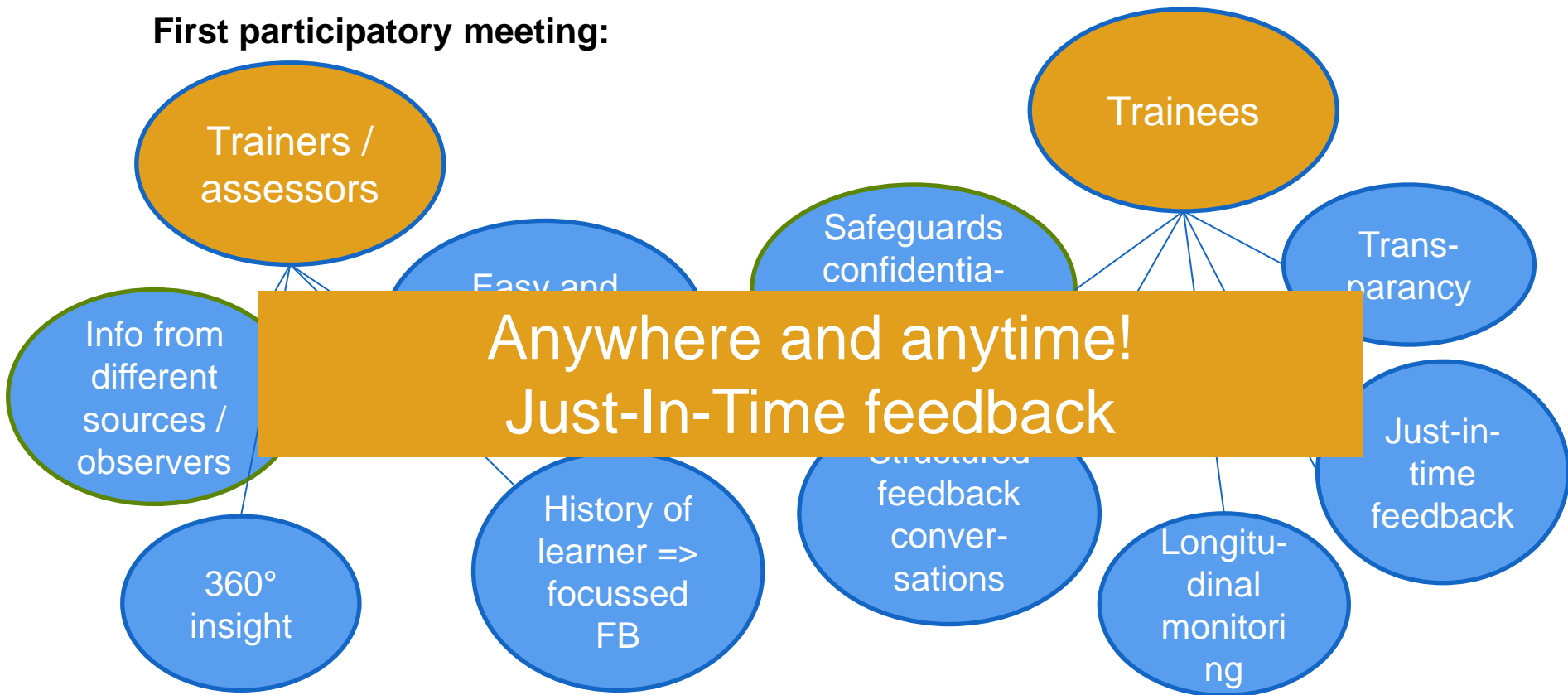
RESULTS

First participatory meeting:



RESULTS

First participatory meeting:



RESULTS

Second participatory meeting:

1. Distinction needed between supervisors and assessors
 - Supervisors:
 - Analyze group of students of same cohort
 - Development of individual student compared to group
 - Accessible through personal computer
 - Assessors:
 - Quick overview on smartphone
 - Elaborate overviews on personal computer
 - Need for notification when assessment needed
2. Definition of different categories of JIT-feedback
 - reminders/notifications
 - content feedback
 - longitudinal feedback

RESULTS

Second participatory meeting:

3. feedback in a quantitative (scores) and qualitative way (narrative feedback) needed

4. Insight into the learning progress
 - Over longer period about students' performance on a general level
 - Short term for performance for particular activities

RESULTS

Third participatory meeting

1. Focus on JIT-feedback

- Preference for narrative feedback
- Possibility to tag narrative feedback
- For numeric feedback: comparison with peers or European standard
- Draw attention on difference score assessor and self-assessment
- Alert when they miss milestone or deadline

2. Rules for not well-performing students

- Number of mini-clinical evaluation exercises (mini-CEX) is dropping.
- Poor reflective skills: poor narratives, small sentences.
- Pattern in recent assessments.
- Poor performers seek supervisors who do not give feedback or only positive feedback (feedback avoidance)

DISCUSSION AND CONCLUSION

- Participatory meetings allowed to grasp the requirements and expectations of the stakeholders
- System will need to provide personalized feedback
- System will need to be adaptive with respect to:
 - Device used
 - Professional domain
 - Role of the user
- Shortcomings:
 - Not all target groups participated => convenience sample
 - Data analysis => time pressure

ACKNOWLEDGMENTS

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- **Suzanne Schut (for acting as an interim coördinator)**