

Scalable support for learning in MOOCs

Citation for published version (APA):

Van Rosmalen, P., Kasch, J., & Kalz, M. (2016). *Scalable support for learning in MOOCs*. Poster session presented at SIG 4 "The Higher Education Conference, Amsterdam, Netherlands.

Document status and date:

Published: 14/07/2016

Document Version:

Publisher's PDF, also known as Version of record

Document license:

CC BY-SA

Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
- The final author version and the galley proof are versions of the publication after peer review.
- The final published version features the final layout of the paper including the volume, issue and page numbers.

[Link to publication](#)

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license above, please follow below link for the End User Agreement:

<https://www.ou.nl/taverne-agreement>

Take down policy

If you believe that this document breaches copyright please contact us at:

pure-support@ou.nl

providing details and we will investigate your claim.

Downloaded from <https://research.ou.nl/> on date: 26 Mar. 2023

Open Universiteit
www.ou.nl



Scalable Support for Learning in MOOCs

The role of MOOCs in Higher Education

Peter van Rosmalen, Julia Kasch & Marco Kalz

Welten Institute

Open University of the Netherlands

peter.vanrosmalen@ou.nl

Welten Institute

Research Centre for Learning, Teaching and Technology

Open Universiteit
welten-institute.org



Open University of the Netherlands

Welten Institute

Three faculties (7 bachelor & 9 master programs, 17,000 students: part-time; age 20-80):

- Humanities and Law
- Management, Science, and Technology
- Psychology and Educational Sciences

Welten Institute (55 staff & 20 internal and 80 external phd-students):

- Master of Learning Sciences
- Research program: "Learning and teaching in technology enhanced learning environments".
 - Fostering Effective, Efficient and Enjoyable Learning (cognitive)
 - Technology enhanced learning environments for teaching and learning (technology)
 - Teaching and teacher professionalization (teachers)

Welt
Resea



MOOC: The Concept

MOOC

Massive ?
Open ?
Online !?
Course ?

Variations (pedagogical):

cMOOC

.....

xMOOC

But also (use/focus):

....

SOOC (Selective ...)

LOOC (Local)

MOOR (Research)

HOOC (Hybrid ...)

.....

(SURF, 2014)

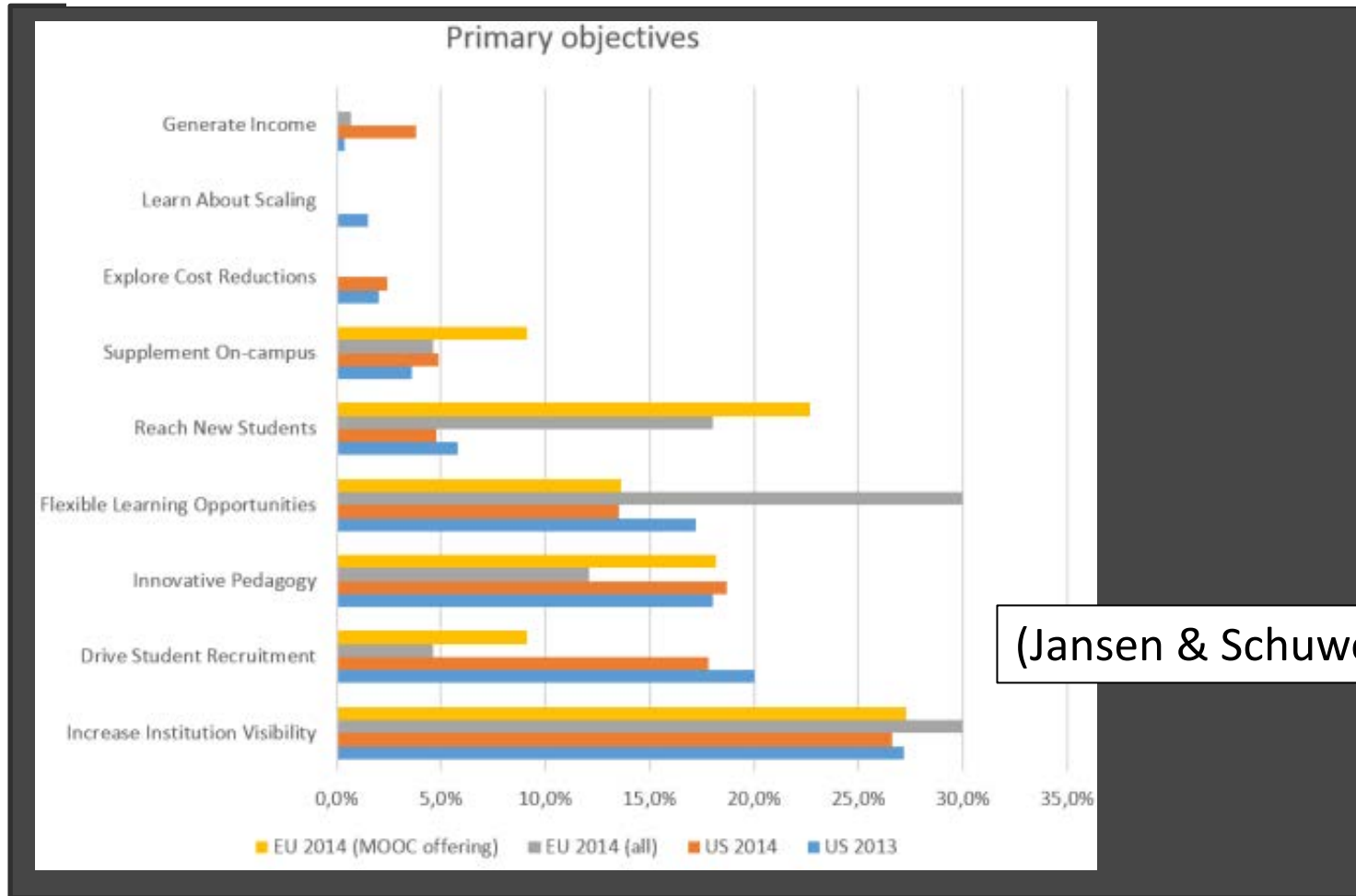
Welten Institute

Research Centre for Learning, Teaching and Technology

Open Universiteit
welten-institute.org



MOOC: Objectives



Welten Institute
Research Centre for Learning, Teaching and Technology

Open Universiteit
welten-institute.org



MOOCs: Design & Use

Quality:

Recent literature (Rosewell & Jansen, 2014; Margaryan, Bianco & Littlejohn, 2015; Spector, 2014) opens up the academic discussion on quality of MOOCs.

Use & Usefulness:

Use figures are high. Completion rates are low: less than 10%.

- 22% intention to complete succeeded versus 6% intention 'to browse' (Reich, 2014)



MOOCs: Design and Use

**Is the design quality low; Is dropout high ?
Do we measure right? What do we know about
these students? And about the institutions?**

“... in thinking about the pedagogy of MOOCs , it will be important to continue to avoid preconceptions,, as these assumptions may not be helpful in new environments” (Bayne & Ross, 2014).





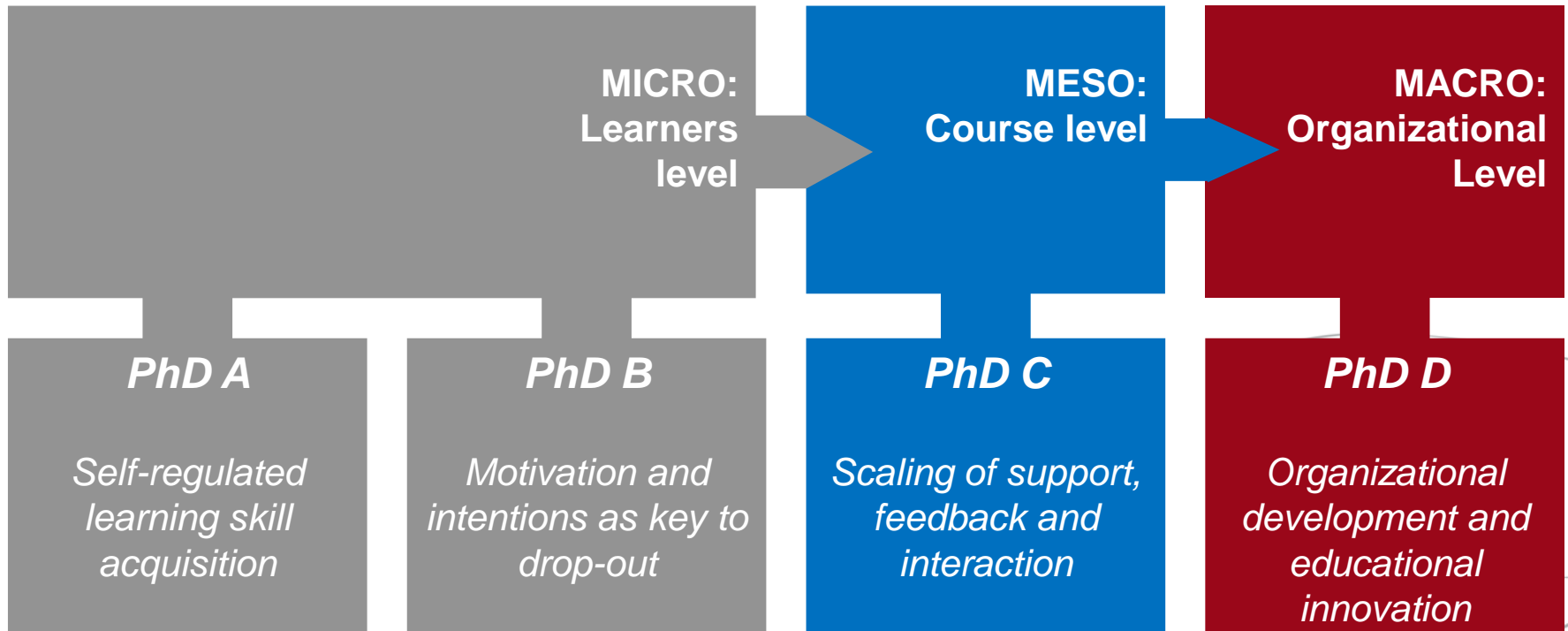
Structuration of Open Education in the Netherlands

The SOONER project is a five year research project (started 1 September 2015) focusing on the development and use of open online education (OOE) in the Netherlands.

The SOONER project works closely together with the so-called “Surf Projects”.

- Between 2015 – 2018 Surf coordinates each year a call of the Dutch ministry for about 12 projects on open and online education.
- These projects should stimulate and enhance the practice and experience of Dutch Higher Education with open online education.

SOONER: MICRO, MESO, MACRO



see: www.sooner.nu

Welten Institute
Research Centre for Learning, Teaching and Technology

Open Universiteit
welten-institute.org



SCALING OF SUPPORT, FEEDBACK AND INTERACTION

Welten Institute
Research Centre for Learning, Teaching and Technology

Open Universiteit
welten-institute.org



Scaling of Support, Feedback and Interaction



Iron Triangle (Lane, 2014)

One of the core questions for implementing Open Online Education is which educational design approaches and support and feedback options are able to scale (Ferguson & Sharples, 2014), i.e.:

- can be implemented for large number of students without increasing the number of tutors and while maintaining quality.

Higher education in general:

- World wide. The number of students is expected to grow from 90M in 2010 to 414 M in 2030 (UNESCO, 2009; ICDE, 2015)
- The Netherlands. The study success (efficiency, dropout and study switch) of students in the Bachelor's phase is improved through a more ambitious and less non-committal study culture, intensifying education and investment in teacher quality. This takes place against a declining government grant per student. (VNSU, 2012)

Welten Institute

Research Centre for Learning, Teaching and Technology

Open Universiteit
welten-institute.org



MOOC: Studying (Stretching) Design

MOOC designs are open and accessible

MOOC user, usage and performance data can be studied at a detailed level

MOOC can potentially serve many students

----->

Increase our knowledge about learners

Increase our knowledge about design and the scalability of design



Participation in MOOCs

academic and social integration

Are learners “tuned” in when they embark on a MOOC journey?

Academic Integration (Tinto, 1975):

- Articulate the course objectives & activate –
- Make aware of (the need of any) prior knowledge
- Articulate (“negotiate”) expectations & engagement level(s)

Constructive Alignment (Biggs, 2003):

- Alignment of objectives and assessment

Research Centre for Learning, Teaching and Technology

welten-institute.org



Participation in MOOCs academic and social integration

Social Integration (Tinto, 1975) (.... Social Capital

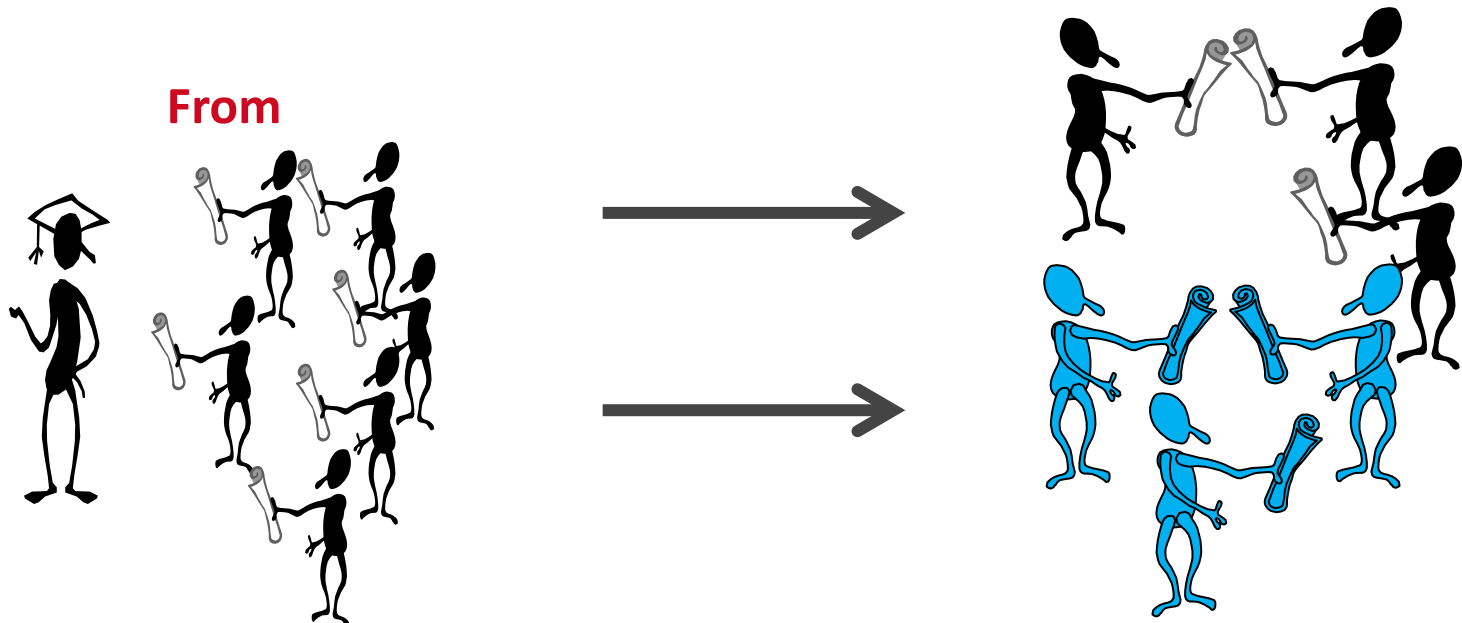
Be aware of / Make the student part of the community:

- Diversity of students' cultures, languages;
- Age, gender, experiences and occupation;
- Educational backgrounds and expectations & timing;
- Motivations for participating (grade, lifelong learning, personal);
- Time zone; Technology and internet access, and online experience



Teaming / Connecting

- Large to small team (relation loss: motivation and coordination)
- Team composition (purposeful: knowledge, practical preferences, personality/culture, timing,)



Teaming / Connecting

Connecting

- Question – Answering (Van Rosmalen et al., 2008)
Student questions routed to private wiki's & selected peers

Collaborating

- Team formation for Collaborative Learning (Spoelstra et al., 2015)
Project team formation based on knowledge, preferences and personality

Commenting

- Tuned models of Peer Assessment (Piech, Huang, Chen, 2013)
Algorithms for estimating and correcting for grader biases and reliabilities

Interactions, feedback and support

Behind and Beyond the Computer

STEM: automated assignments (programs, equations,)

Alternatives in- and outside STEM:

- Essay, Voicethread, Mindmap, Poster, Game, Photo, Video, Sensor,



Interactions, feedback and support Behind and Beyond the Computer



Archaeology (UCL):
Video assignment (Martinon-Torres, 2014)

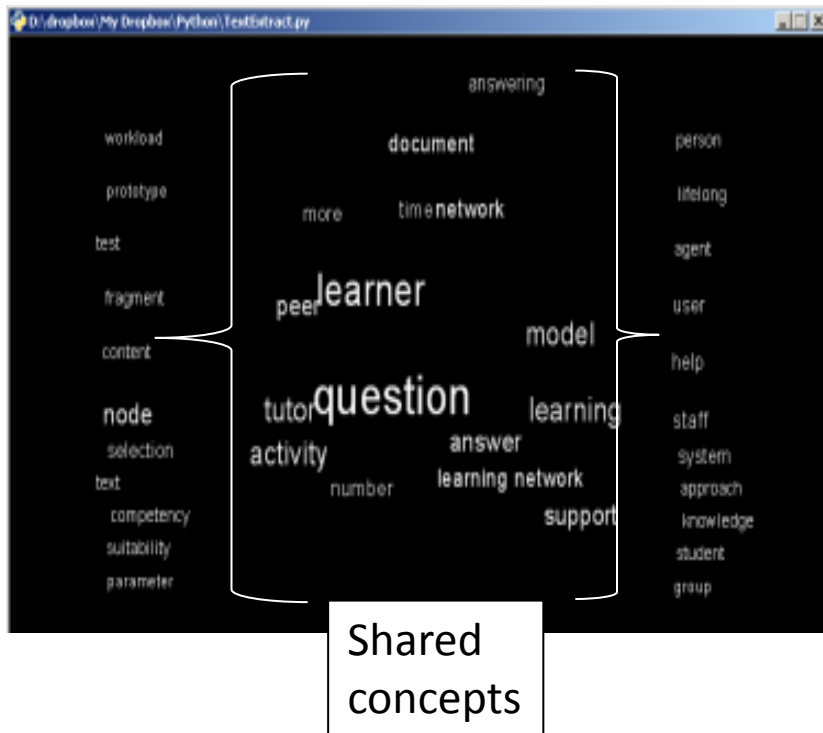
Welten Institute
Research Centre for Learning, Teaching and Technology

Culture:
Serious Game (Klemke, 2012)



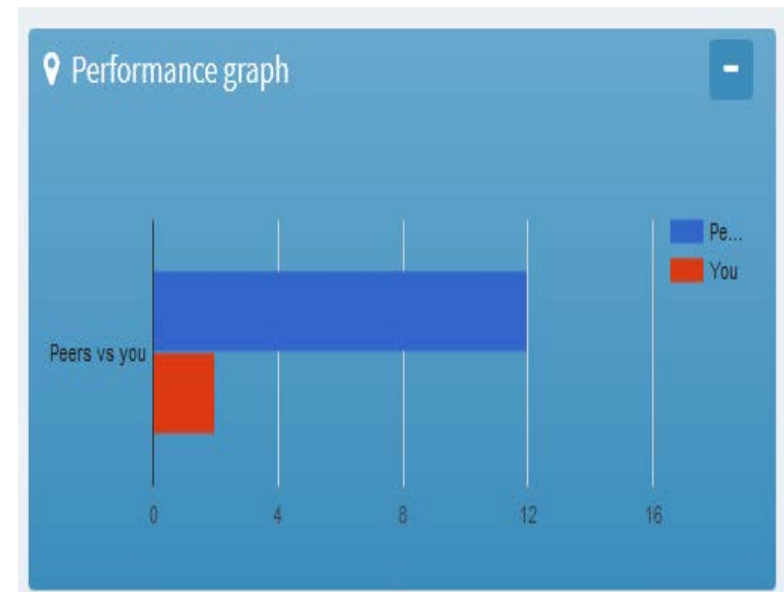
Interactions, feedback and support Behind and Beyond the Computer

Text analysis (Open Assignment)



(Rosmalen et al, 2013))

Learning Analytics (Reflection)

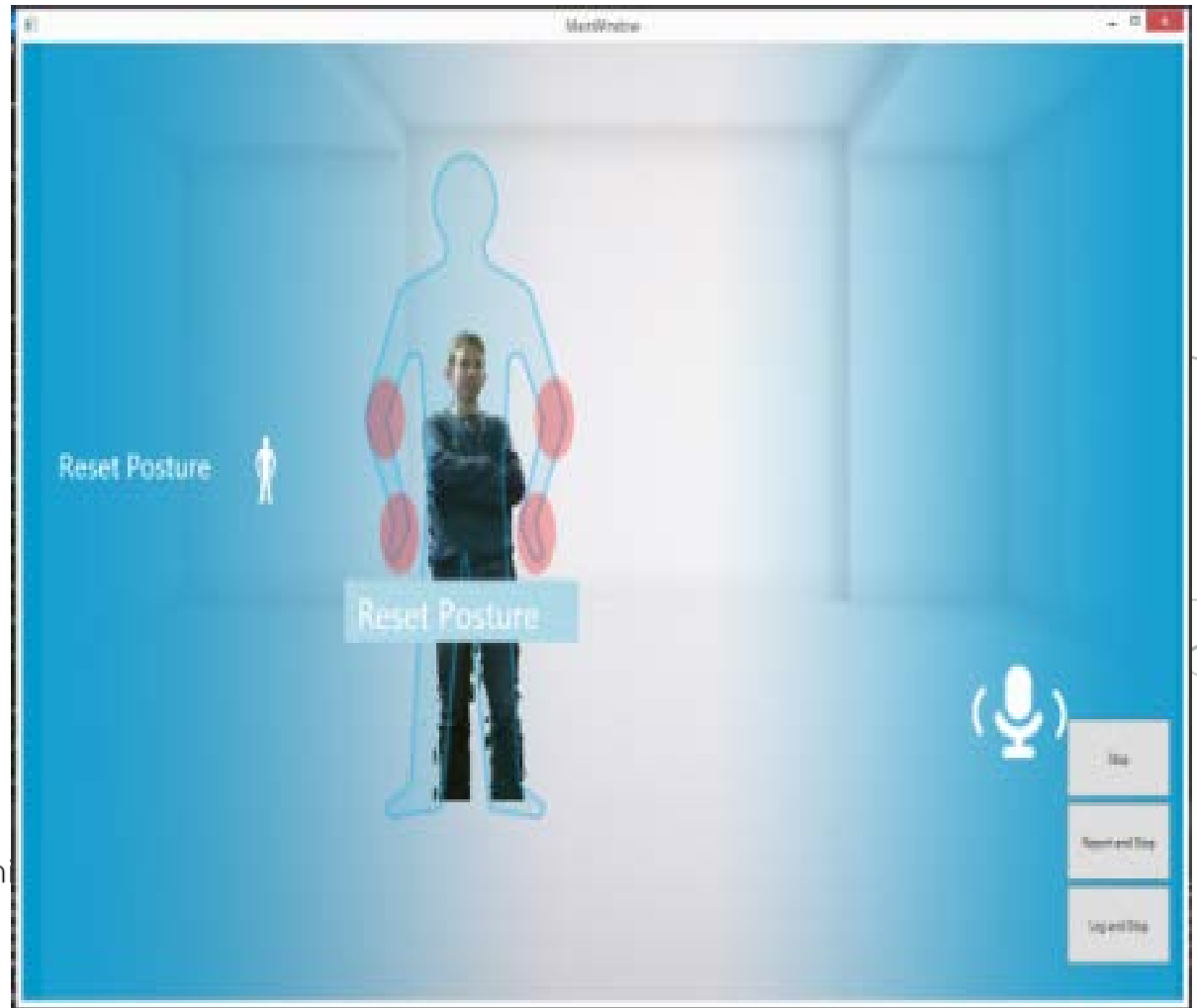


(Verpoorten, 2012; Davis et al, 2016)

Interactions, feedback and support Behind and Beyond the Computer

Presentation Skills
Sensor based assignment
(Schneider et al, 2015)

www.metalogue.eu



Welten Institute
Research Centre for Learning, Teaching and Assessment

Questions ?

Interested to participate:

- **Survey:** MOOC Design Common and Best Practice
- **Group Concept Mapping:** Your institutional perspective on open online education (note: the GCM is in Dutch)

For information see: www.sooner.nu



Peter.vanRosmalen@ou.nl

Welten Institute

Research Centre for Learning, Teaching and Technology

Open Universiteit
welten-institute.org



DISCUSSION

Welten Institute
Research Centre for Learning, Teaching and Technology

Open Universiteit
welten-institute.org

