

It's time, to learn  
something new

Join now

Martin Ebner  
Sandra Schön

Educational Technology  
Graz University of Technology

## Teacher Training at Universities with “Inverse Blended MOOCs”

1st December 2020  
2nd European Schoolnet Academy  
Thematic Seminar





# Licensing of the contribution

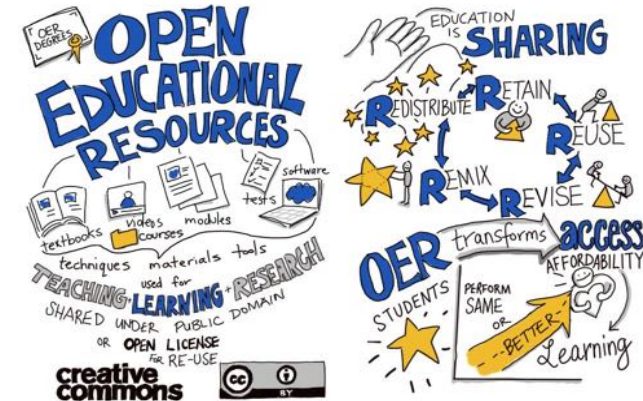


These slides can be used under the terms of the CC License CC BY 4.0 International (<https://creativecommons.org/licenses/by/4.0/>). Please use, if applicable, the links and references as attribution for individual illustrations.

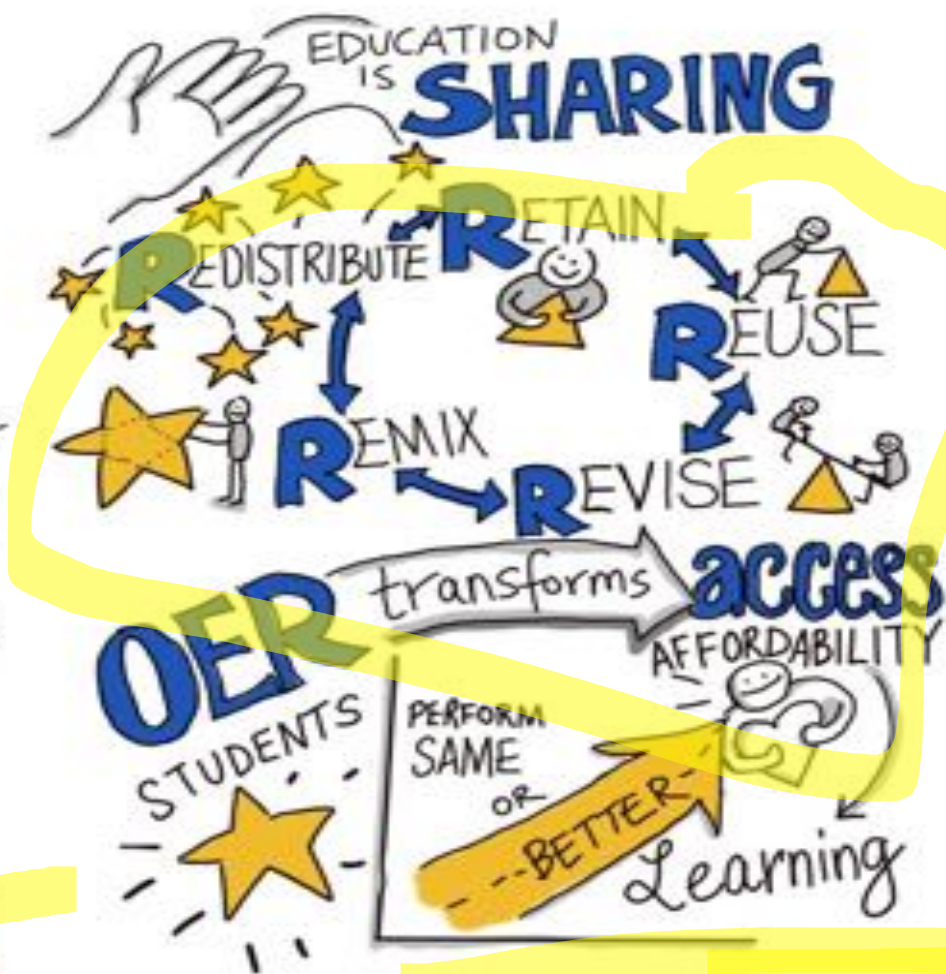


# Initial situation I: Experience with MOOCs at iMooX.at

- The Austrian MOOC platform iMooX.at has been in existence since 2014
- 60.000 registered participants
- Over 100 courses (most in German, some in English, partly multilingual)
- All courses as Open Educational Resources (OER), i.e. available under open license

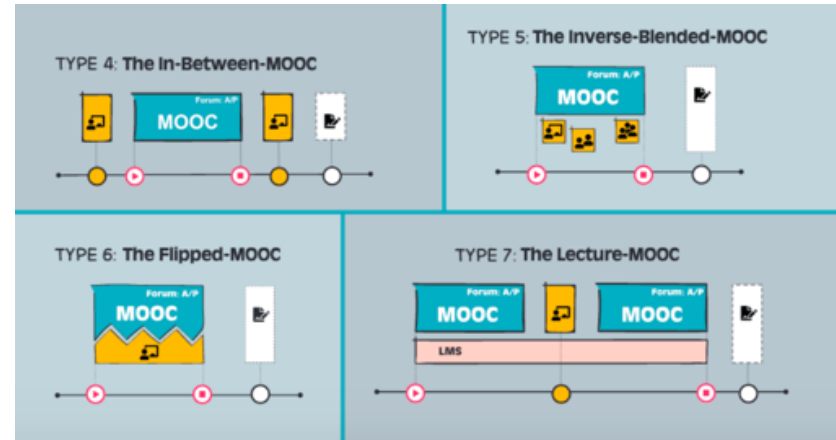
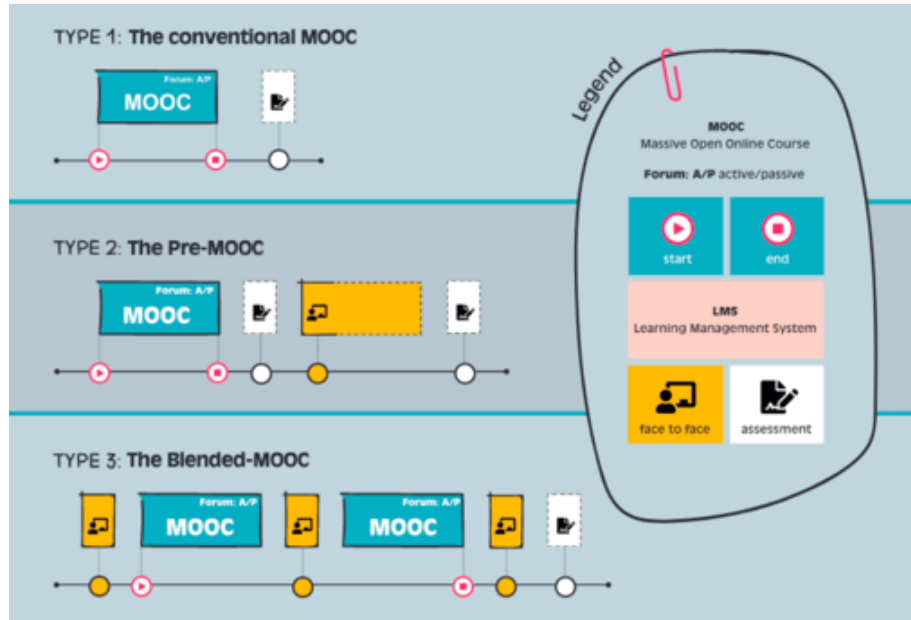








# Initial situation II: 7 forms of using MOOCs in university teaching



See Ebner, M., Schön, S., & Braun, C. (2020).



# Initial situation II: 7 forms of using MOOCs in university teaching



Available under: <https://youtu.be/s8lhsBmCDol>

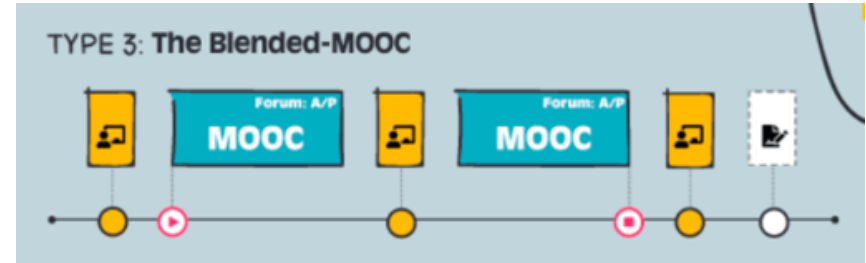


# Initial situation III: Inverse blended learning and new partnerships



Figure 2.1 Inverse Blended Learning

Ebner & Schön, 2019



Ebner, M., Schön, S., & Braun, C. (2020C).



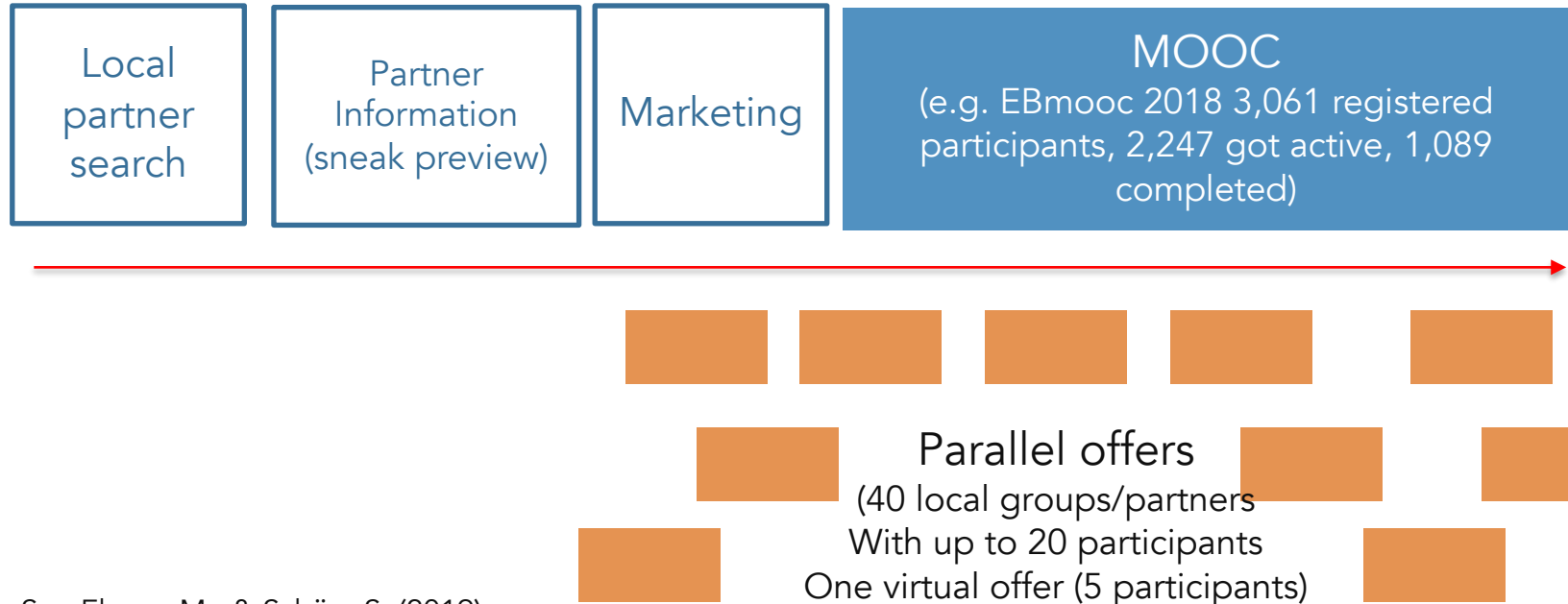
# Initial situation III: Inverse blended learning and new partnerships



Example: The EBmooc: A MOOC for digital tools in adult education 2018-2020  
See: Ebner et al. 2017



# Initial situation III: Inverse blended learning and new partnerships



See Ebner, M., & Schön, S. (2019).



# Development: Collaboration of 6 universities

- Six universities are responsible for teacher education within the „Austrian South-East Development Cooperation“
- A common development for a new module "Digital Competencies" in the scope of 6 EC within teacher training
- Distribution: 2 EC Bachelor / Basics, 2 EC Bachelor / Didactics, 2 EC Master / Advanced
- Development of content by the expert group
- Approval by the steering group in autumn 2017






# Lecture as a MOOC with exercise (2019)

## “Teaching and learning with new media”

### Lecture as a MOOC

Massive open online course  
“Teaching and Learning with new media” 

### Exercises in groups at partner universities

Assignments and information in learning management systems  
of all partner universities

Face-to-Face  
appointment

Face-to-Face  
appointment

Face-to-Face  
appointment

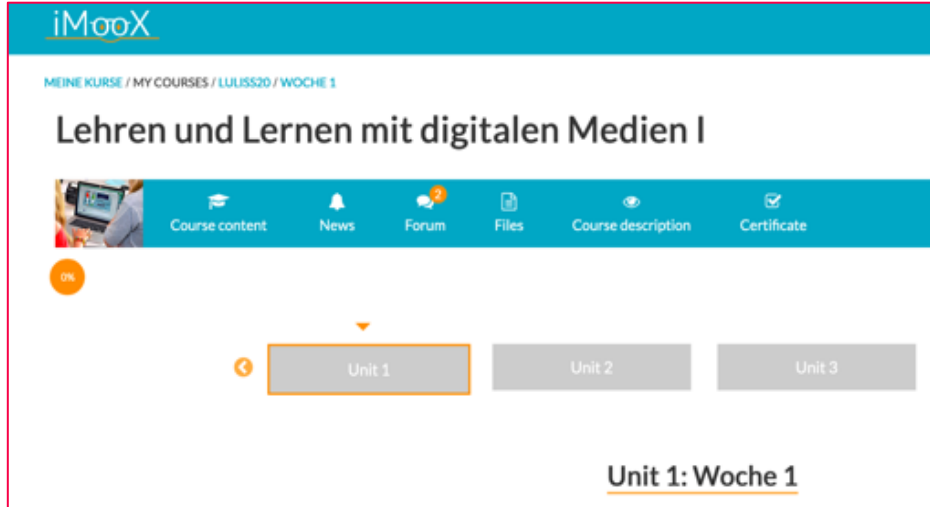
Final  
Exam  
(MC)

time

(Originally implemented in summer semester 2019 at  
six Austrian universities)



# The MOOC



1. Introduction
2. Learning videos, learning theories and introduction to Computational Thinking
3. Computational Thinking, Use of technologies in teaching in theory and practice
4. Copyright and Open Educational Resources, Communication Theory and Accessibility
5. Learning management systems and their use; communication, collaboration and knowledge management
6. Data protection, combination of licenses, youth in a digital, world, digi.comp (Digital competencies)

Screenshot of the MOOC “Learning with new media” and units (right)

Source: <https://imoox.at/mooc/course/view.php?id=99&section=1&lang=en> (2020-05-15)



# Participation and results of the MOOC and lecture

*Table 1: Number of participants at the distinct parts of the MOOC “Learning with new media” in 2019 and lecture and exercise together. Source: Ebner et al. 2020a, Table 1, p. 73*

Activity	Participants
Registered participants in MOOC (6 weeks)	1,482
Performed self-check test (one per week) in MOOC	4,767
Certification for successful MOOC participation	731
Successful participation at lecture and exercise (MOOC, group work, exam)	605


Taken from: Ebner, Martin & Schön, Sandra (2020a).



# COVID19: The Lecture in 2020

Lecture with exercise  
"Teaching and learning with new media"

## Lecture as a MOOC

Massive open online course  
"Teaching and Learning with new media" 

## Exercices in groups at partner universities

Assignments and information in learning management systems  
of all partner universities

Online  
Meeting

Online  
Meeting

Online  
Meeting

Final  
Exam  
(MC)

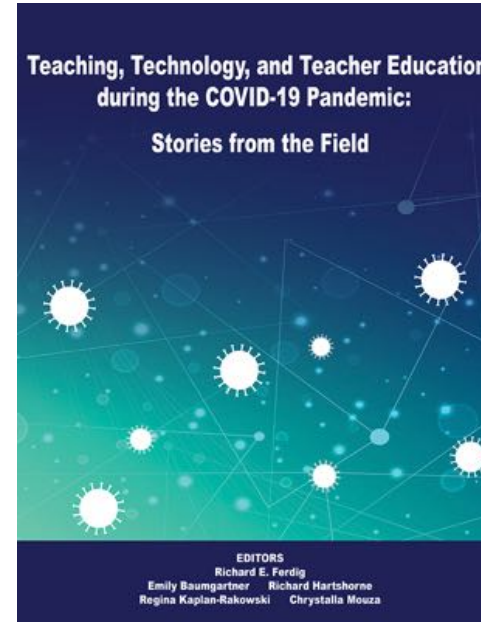
time

(Pure online variation implemented in summer semester 2020 at six  
Austrian universities)



# References (1/2)

Ebner, Martin & Schön, Sandra (2020a). Future Teacher Training of Several Universities with MOOCs as OER. In: R.E. Ferdig, E. Baumgartner, E., R. Hartshorne, E. Kaplan-Rakowski, & C. Mouza, C. (Ed). Teaching, Technology, and Teacher Education during the COVID-19 Pandemic: Stories from the Field. Association for the Advancement of Computing in Education (AACE). Pp. 493-497. Book is available under CC BY NC ND:  
<https://www.learntechlib.org/p/216903/>. Preprint at ResearchGate:  
[https://www.researchgate.net/publication/342261714\\_Remote\\_Future\\_Teacher\\_Training\\_with\\_MOOCs](https://www.researchgate.net/publication/342261714_Remote_Future_Teacher_Training_with_MOOCs)





## References (2/2)

- Ebner, M., Khalil, M., Schön, S., Gütl, C., Aschemann, B., Frei, W., & Röthler, D. (2017). **How Inverse Blended Learning Can Turn Up Learning with MOOCs?** In: Proceedings of the International Conference MOOC-MAKER 2017, Antigua Guatemala, Guatemala, November 16–17, 21–30.
- Ebner, M., Lorenz, A., Lackner, E., Kopp, M., Kumar, S., Schön, S., Wittke, A. (2016). **How OER enhance MOOCs – A Perspective from German-speaking Europe.** In: Open Education: from OERs to MOOCs. Jemni, M., Kinshuk, Khribi, M. K. (Hrsg.). Springer. Lecture Notes in Educational Technology, S. 205–220.
- Ebner, M., & Schön, S. (2019). **Inverse Blended Learning – a didactical concept for MOOCs and its positive effects on dropout-rates.** In: M. Ally, M. Amin Embi & H. Norman (Hrsg.), The Impact of MOOCs on Distance Education in Malaysia and Beyond. London: Routledge.
- Ebner, M., Adams, S., Bollin, A., Kopp, M., & Teufel, M. (2020b). **Digital gestütztes Lehren mittels innovativem MOOC-Konzept.** *journal für lehrerInnenbildung*, 20 (1), 68-77.  
[https://doi.org/10.35468/jlb-01-2020\\_05](https://doi.org/10.35468/jlb-01-2020_05)
- Ebner, M., Schön, S., & Braun, C. (2020c). **More Than a MOOC. Seven Learning and Teaching Scenarios to Use MOOCs in Higher Education and Beyond.** In: S. Yu, M. Ally, A. Tsinakos (Hrsg.), Emerging Technologies and Pedagogies in the Curriculum. Bridging Human and Machine: Future Education with Intelligence, Singapore: Springer, S. 75–87.



# 17 Acknowledgements

Parts of the presented development and research is done in following projects:

„Learning Analytics: Effects of data analysis on learning success“, partner: Graz University of Technology and University of Graz, Funding body: Province of Styria  
12. Zukunftsfonds Steiermark



„iMooX – the MOOC platform as a service for all Austrian universities“ (2021-2023), co-funded by the Federal Ministry Republic of Austria Education Science and Research.







## LEHR- UND LERntechnologien

We care about eEducation

Dr. Martin Ebner

Kontakt: [martin.ebner@tugraz.at](mailto:martin.ebner@tugraz.at)

Dr. Sanda Schön

Kontakt: [sandra.schoen@tugraz.at](mailto:sandra.schoen@tugraz.at)



ASSISTENZ VIZEREKTORAT LEHRE  
We care about **developing** Education



LIFE LONG LEARNING  
We care about **continuing** Education



SPRACHEN,  
SCHLÜSSELKOMPETENZEN  
UND INTERNE WEITERBILDUNG  
We **enrich** Education



STUDIENSERVICE  
We care about **organising** Education



INTERNATIONAL OFFICE – WELCOME CENTER  
We care about **international** Education



# Learning Analytics

Device Stats  



☐ OS ☐ Language ☒ Browser

A dashboard for MOOC teachers with several widgets give insights.



Browser

- 2284 Visits with Chrome
- 238 Visits with Edge
- 1692 Visits with Firefox
- 128 Visits with IE
- 6 Visits with Netscape
- 2 Visits with Opera
- 304 Visits with Safari

Research by

Project title: Learning Analytics: Effects of data analysis on learning success

Partner: Graz University of Technology and University of Graz

Funding body: Province of Styria

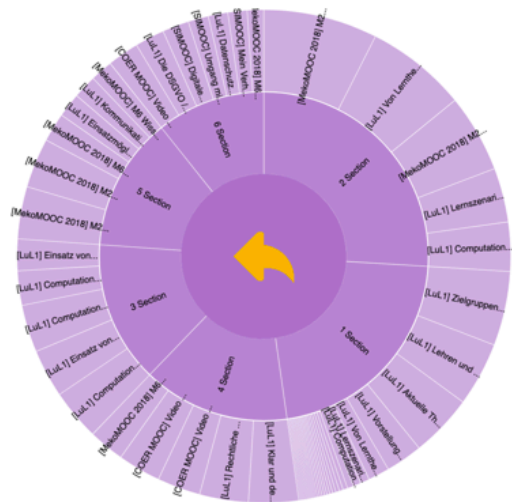
12. Zukunftsfonds Steiermark



# Learning Analytics

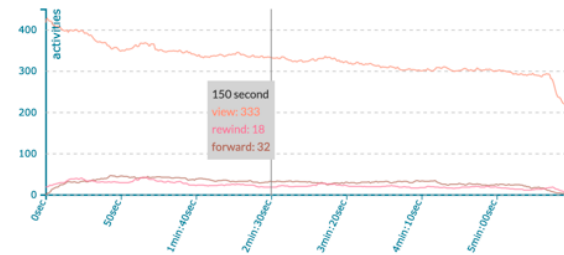
## Video activities

☐ last 7 days
 ☐ last month
 ☐ last 3 months
 ☒ last year



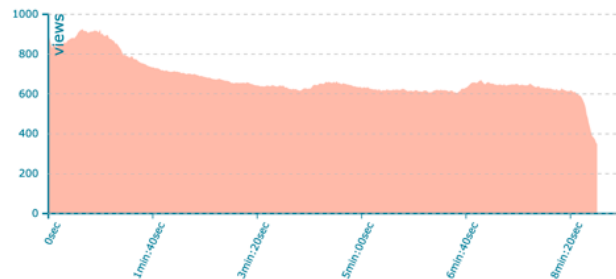
## View vs rewind vs forward

Lehren und Lernen mit c



## Views per second


Lehren und Lernen mit c





# Learning Analytics application for learners in iMooX






**Betreuter Kurs**

**Gesellschaftliche Aspekte der Informationstechnologie**  
Martin Ebner

€ Gratis      Startdatum: 12.10.2020

👤 166      verfügbar bis: Unbegrenzt



**Betreuter Kurs**

**Lehren und Lernen mit digitalen Medien II**  
Simone Adams, Andreas Bollin & Martin Ebner

€ Gratis      Startdatum: 05.10.2020

👤 585      verfügbar bis: 15.07.2021



20. Logarithm

