CROSS TEACHING AND INQUIRY-BASED LEARNING IN VIRTUAL GROUPS

1. Background
2. Learning Setting
3. Research Design and Process Model
4. Results and Discussion

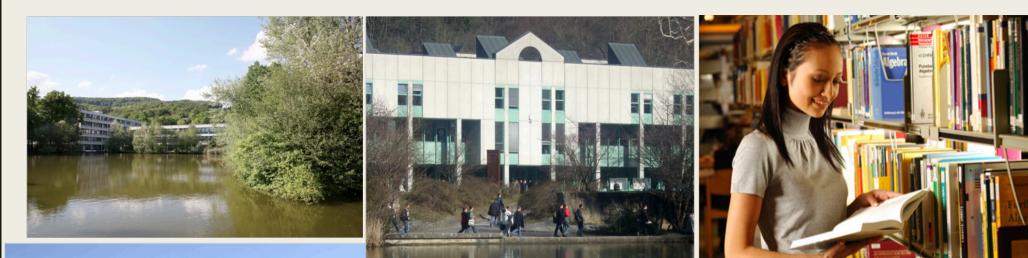# BACKGROUND

Magdeburg-Stendal University

University of Linz

JXU

JOHANNES KEPLER
UNIVERSITY LINZ

LEARNING SETTING

Scientific Paper Writing Course

Peer Review as a Learning Method

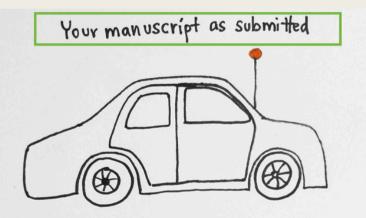# Scientific Paper Writing course

- 3 courses:

  Master Digital Business Management (University of Linz),

  Master Cross Media (Magdeburg-Stendal University),

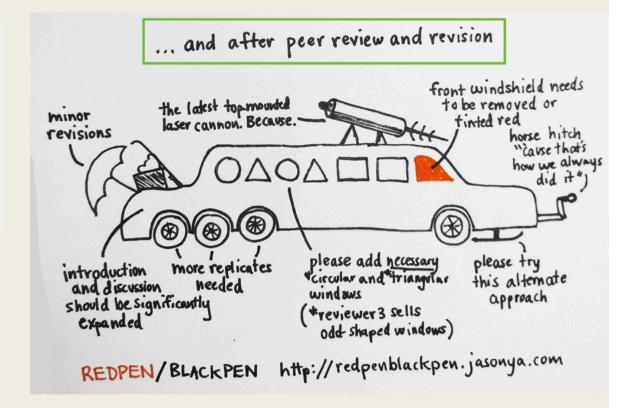 Master Risk Management (Magdeburg-Stendal University)

- designed for professionals, high technical affinity, media competency
- 13 interuniversity learning groups
- special incentive:

  research workshop
  Participation and presentation at Conference #TCCM, publication
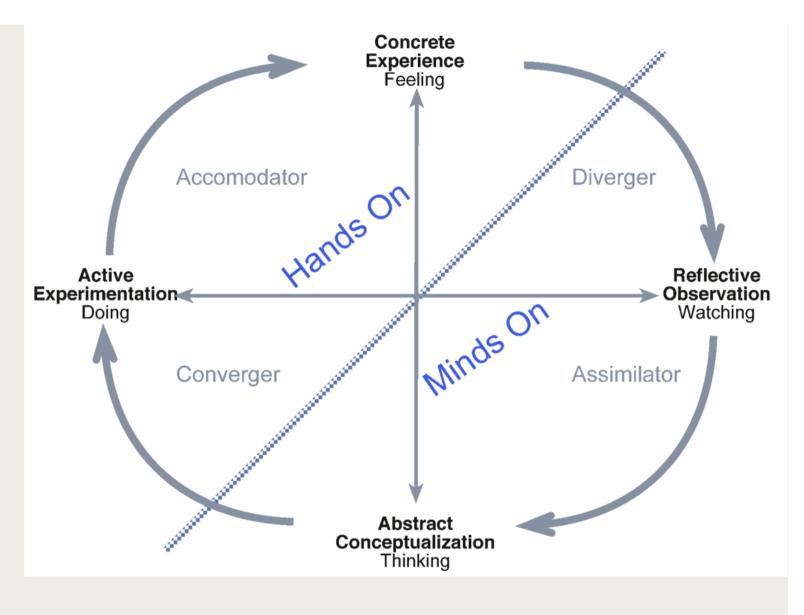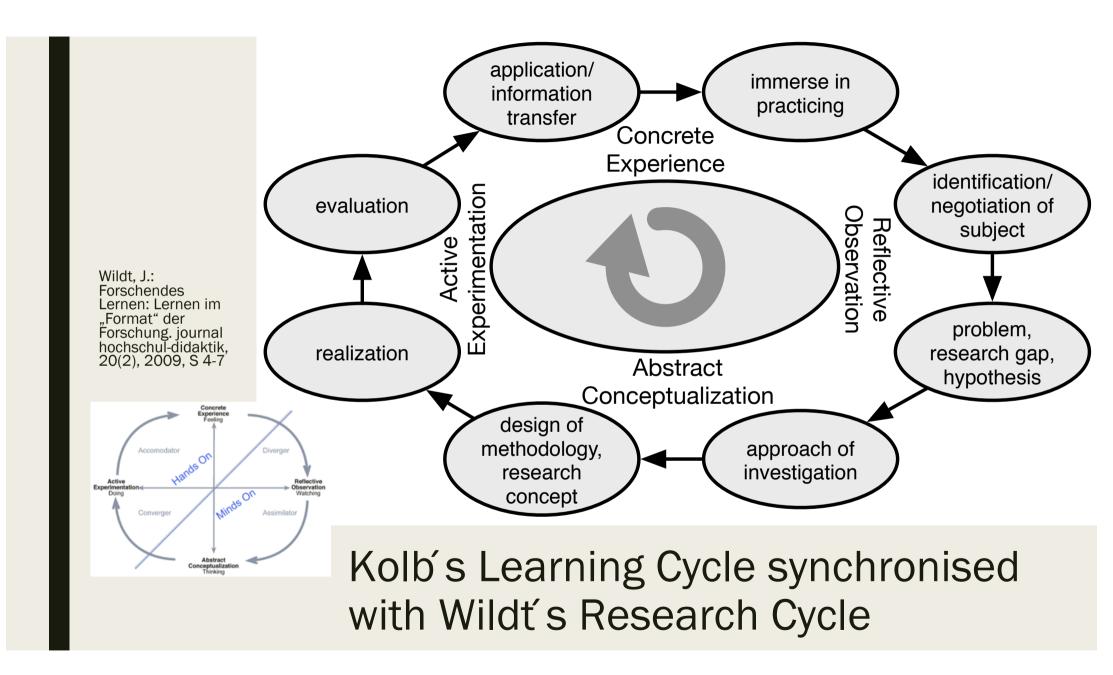
Peer Review

RESEARCH DESIGN AND PROCESS MODEL

Learning Model
Process Model
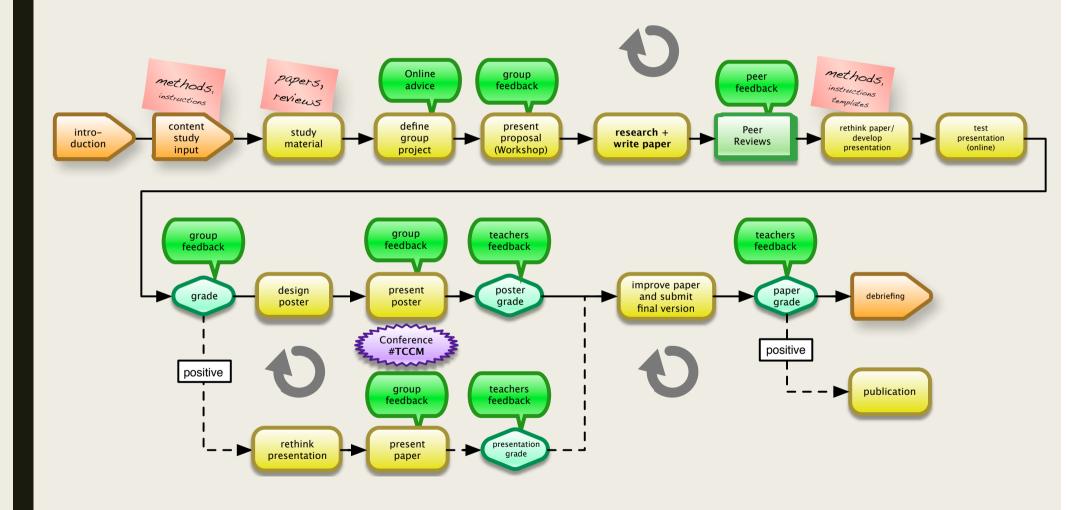Implementation of the course

Kolbs Experiential Learning Cycle

Kolb, D. A. (1984) Experiential Learning: Experience as the Source of Learning and Development, Prentice-Hall, Inc., Englewood Cliffs, N.J.
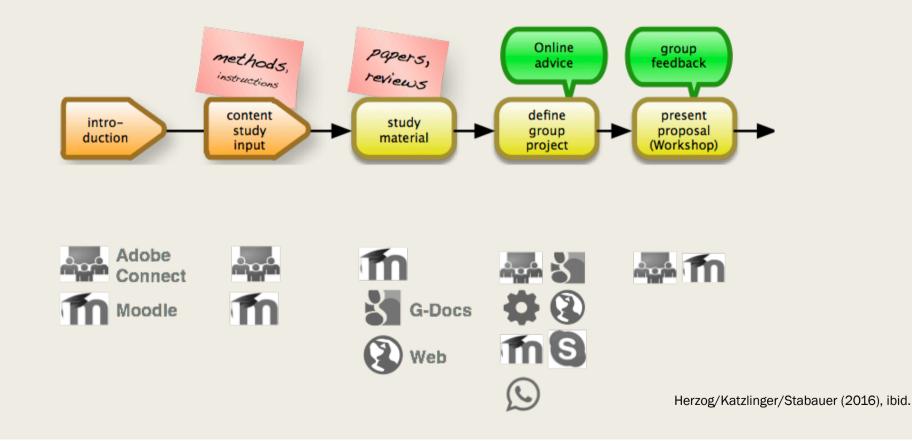
Kolb´s Learning Cycle synchronised with Wildt´s Research Cycle

Diagram labels (clockwise from top):
- application/ information transfer
- immerse in practicing
- identification/ negotiation of subject
- problem, research gap, hypothesis
- approach of investigation
- design of methodology, research concept
- realization
- evaluation

Axis labels:
- Concrete Experience
- Reflective Observation
- Abstract Conceptualization
- Active Experimentation

Side reference:
Wildt, J.: Forschendes Lernen: Lernen im „Format" der Forschung. journal hochschul-didaktik, 20(2), 2009, S 4-7

Inset diagram labels:
- Concrete Experience Feeling
- Accomodator
- Diverger
- Hands On
- Active Experimentation Doing
- Reflective Observation Watching
- Converger
- Minds On
- Assimilator
- Abstract Conceptualization Thinking

Research process

First Section of the Learning Cycle

Herzog/Katzlinger/Stabauer (2016), ibid.
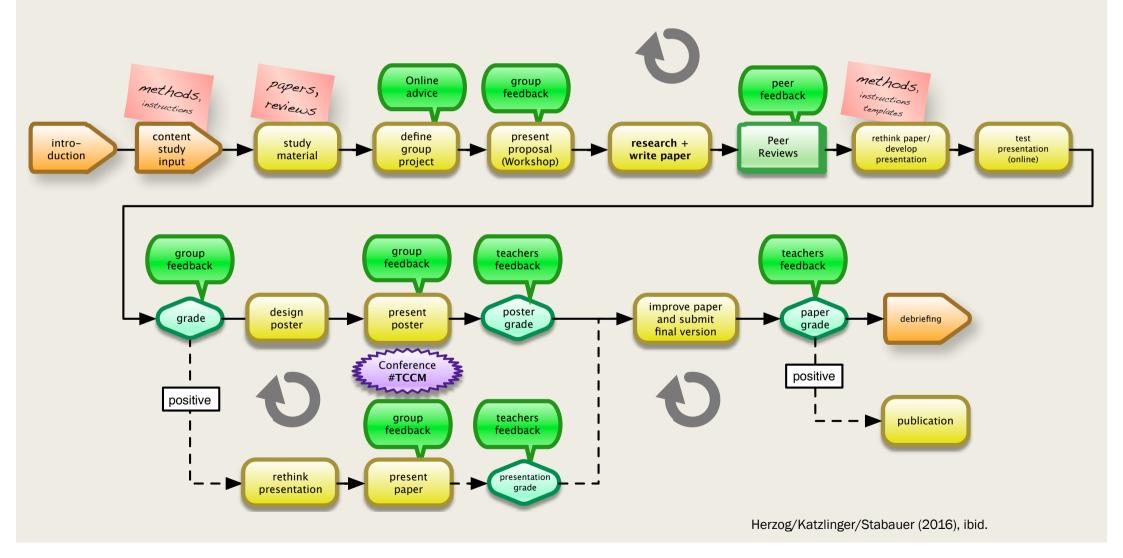
Research Workshop
JKU Linz

Research Workshop
JKU Linz
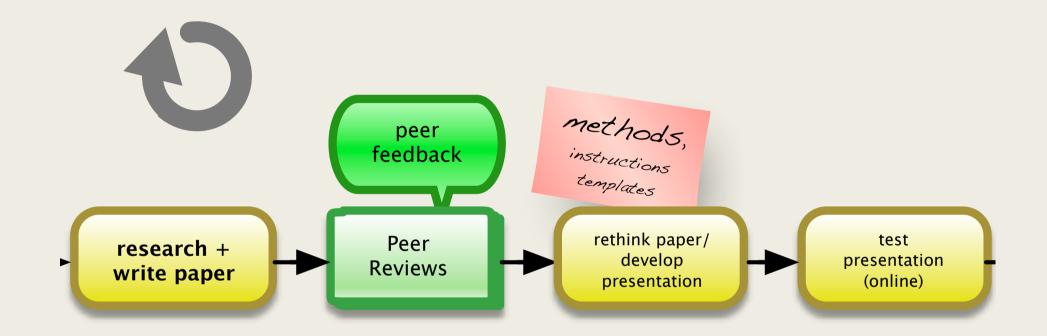
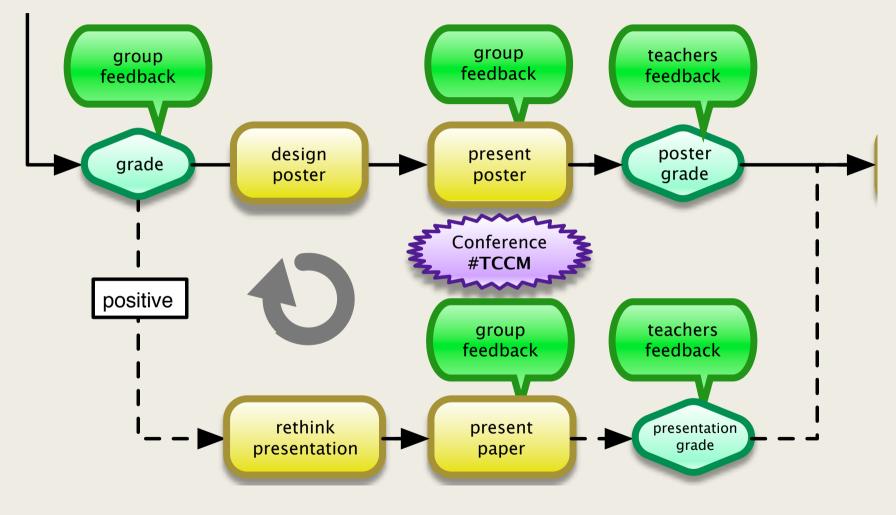# Research process
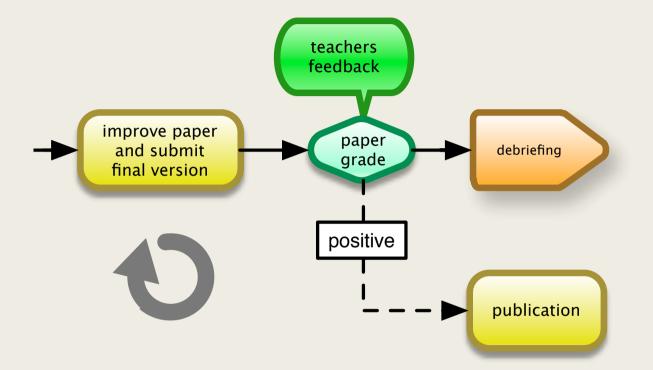

Herzog/Katzlinger/Stabauer (2016), ibid.
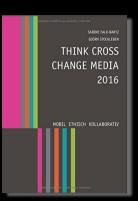
Herzog/Katzlinger/Stabauer (2016), ibid.

Herzog/Katzlinger/Stabauer (2016), ibid.
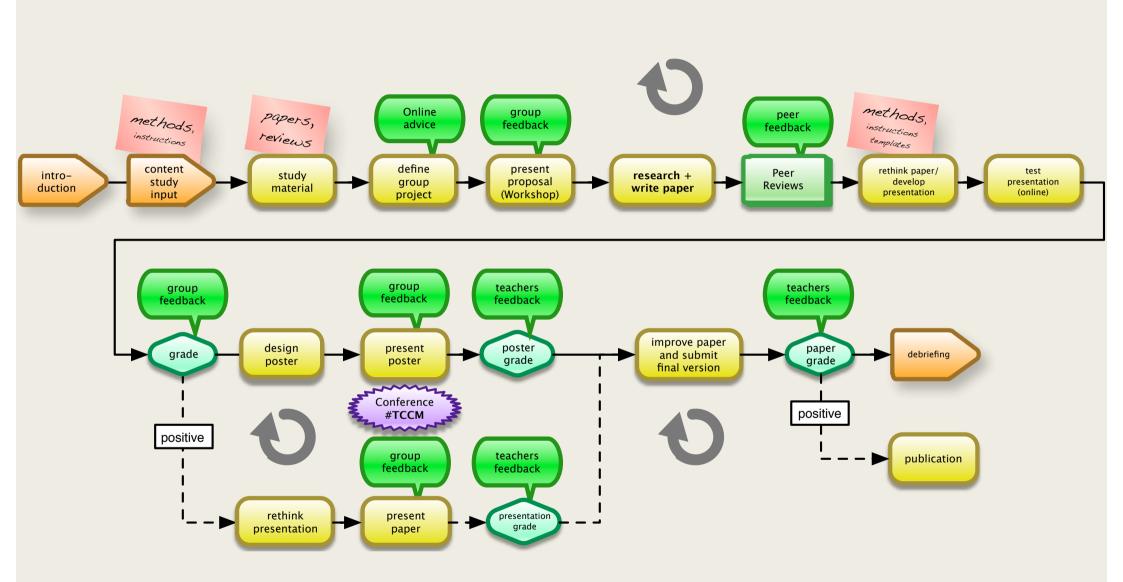
#TCCM Conference,
Magdeburg, Feb. 2017

Research Design • Process Model • Conference   X

Herzog/Katzlinger/Stabauer (2016), ibid.

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#TCCM Conference,
Magdeburg, Feb. 2016

Research Design • Process Model • Conference   X

intro–duction → content study input → study material → define group project → present proposal (Workshop) → research + write paper → Peer Reviews → rethink paper/ develop presentation → test presentation (online)

methods, instructions

papers, reviews

Online advice

group feedback

peer feedback

methods, instructions templates

grade → design poster → present poster → poster grade → improve paper and submit final version → paper grade → debriefing

group feedback

group feedback

teachers feedback

teachers feedback

positive

Conference #TCCM

rethink presentation → present paper → presentation grade

group feedback

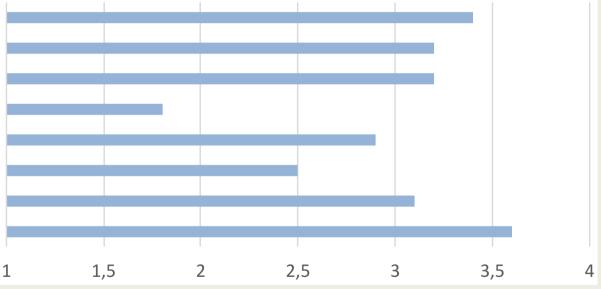teachers feedback

positive

publication

Herzog/Katzlinger/Stabauer (2016), ibid.

RESULTS & DISCUSSION

Students' feedback
Tools
Analysis of the Peer Reviews

Students' rating of Peer Review as a learning method

[1] poor, ... , [4] excellent

Peer review – Qualitative evaluation

»The Peer Review process was a very special experience, because the **feedback** of our colleagues was extremely **honest, comprehensive and inspiring.**«

»Drafting a Peer Review and the associated **intensive work with another groups' paper** was very interesting and rewarding.«

Interregionality, Interdisciplinarity

»*Various approaches and educational background* of group members were absolutely beneficial. That way, we had a great mix of ideas, methods and strengths, that we could coordinate and distribute the diverse tasks accordingly.«

»Just like in professional life, you can't always choose with whom you want to work together and you might come across **difficult characters** or people you can't get along very well.«
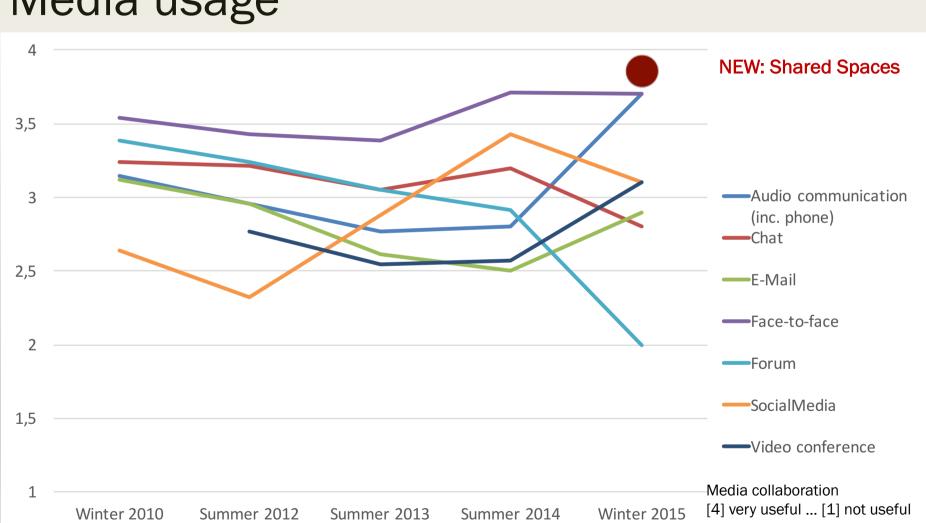
Learning method

*»Even though the development of this paper was **more demanding** than any other during my studies, I would recommend the cooperation with the university in Magdeburg for the coming years.*

*The chance to present our paper at the **Cross Media Conference** was great and will not repeat itself too quickly.*

*The **work in virtual teams** was rewarding, even though not always simple, and might turn out helpful in modern professional environments.«*

Media usage

NEW: Shared Spaces

Audio communication (inc. phone)

Chat

E-Mail

Face-to-face

Forum

SocialMedia

Video conference

Media collaboration
[4] very useful ... [1] not useful

Winter 2010   Summer 2012   Summer 2013   Summer 2014   Winter 2015

Students' rating of Peer Review feedback

[1] poor, ... , [5] excellent

Quality of
Peer Review
feedback
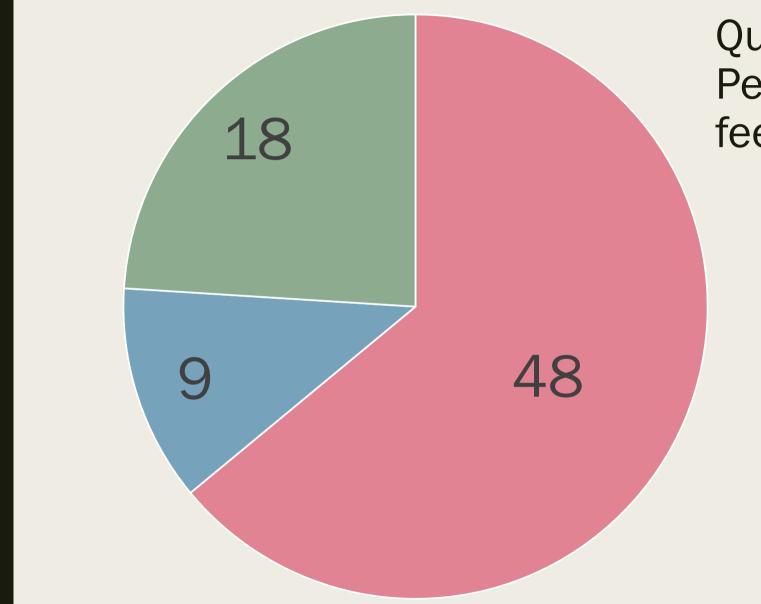
- adequately helpful
- very helpful
- not helpful

48

9

18

Positive Feedback

Category	Value
data evaluation/discussion of results	23
structure	59
formatting	27
potential for innovation	17
topic	30
style of writing	48
method/data collection	28
practical relevance	17
visualization	36
theory	5
sources	8
scientific character	7
conclusion	3

Negative Feedback

Category	Value
mistakes (orthography, repetition and comprehension questions)	70
visualization	36
research question	13
target group	3
method/data collection	59
conclusion	23
sources	15
scientific character	13
structure	26
style of writing	6
formatting	18
practical relevance	9
potential for innovation	17
topic	26
data evaluation/discussion of results	19
theory	15
citation	7
lengh	16

Lessons learned and to be learned

– *Investing in learning process design pays back.*

– *Peer Review is a proofed and technically well supported method that scales easily.*

– *Set of criteria for PeerReview is a key success factor for the learning process.*

– *The presented research based learning scenario is demanding in time and resources, but provides the best learning outcomes.*

– *Allow students to revise their work.*
  Peer Review is a chance to learn more from feedback.

– *Complement virtual collaboration by face-to-face meetings.*

– *Provide a motivational incentive.*
  Thereby, challenges with higher workloads are accepted.

THANKS!!!

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