

Reflecting Peer Reviews in Inquiry Based Learning Scenarios.

An Analysis of Peer Feedback Levels and their Implementation

1. Background
2. Inquiry-Based Learning - a Process Model
3. Previous Work and Methodology
4. Result Discussion

1

Background

Europe





Johannes Kepler University Linz, Austria



- ▶ 20.000~ students; 2.500~ employees
- ▶ 65 BA-, MA-, PhD- study programs at 118 institutes
 - Faculty of Social sciences, Business and Economics
 - Faculty of Engineering and Natural Sciences
 - Faculty of Law
 - Faculty of Medicine (since 2014)





• Multimedia Study Services for Social and Economic Sciences





Hochschule
Magdeburg • *Stendal*







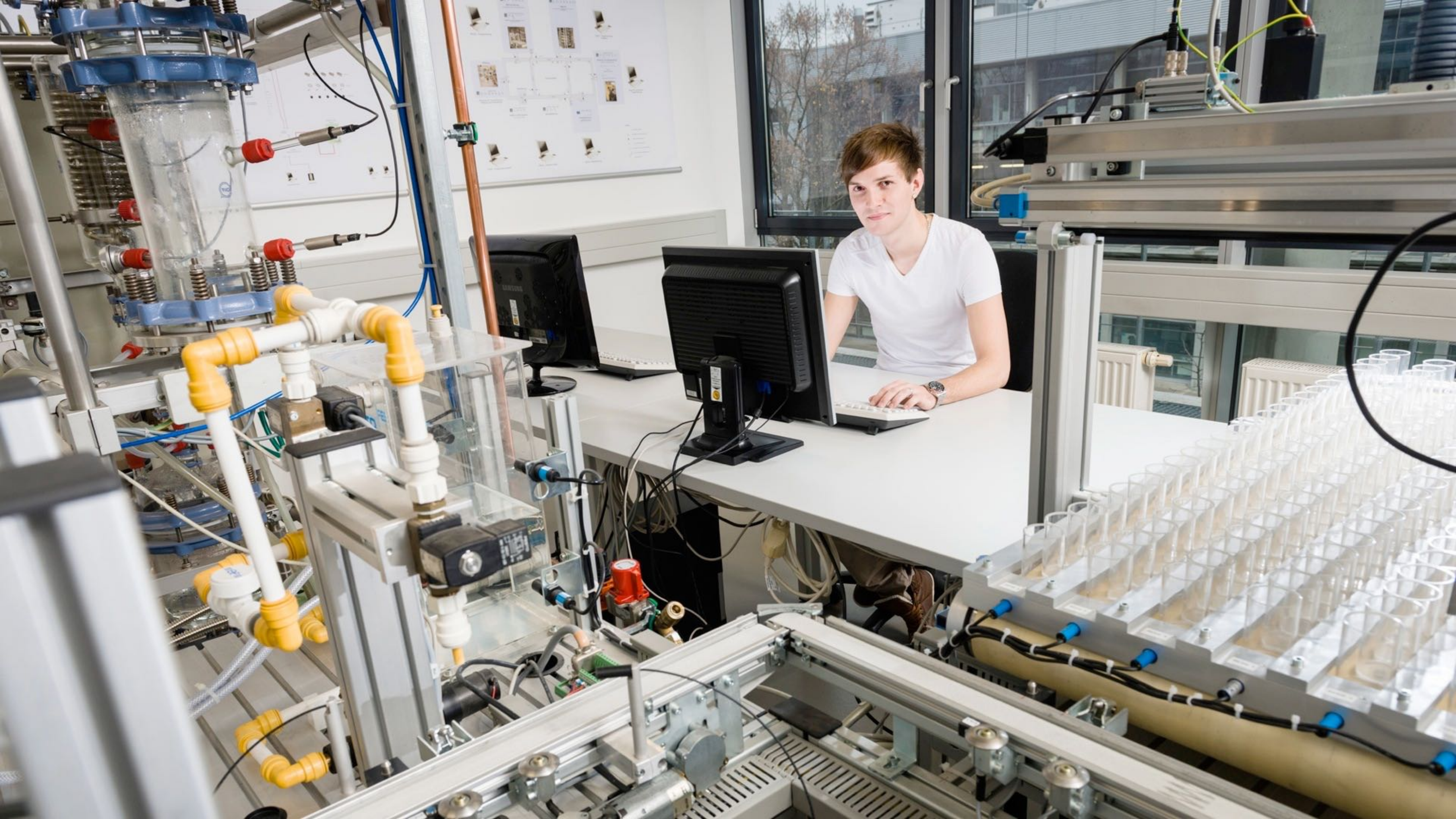






INFORMATION

MELFA
RV-E3U





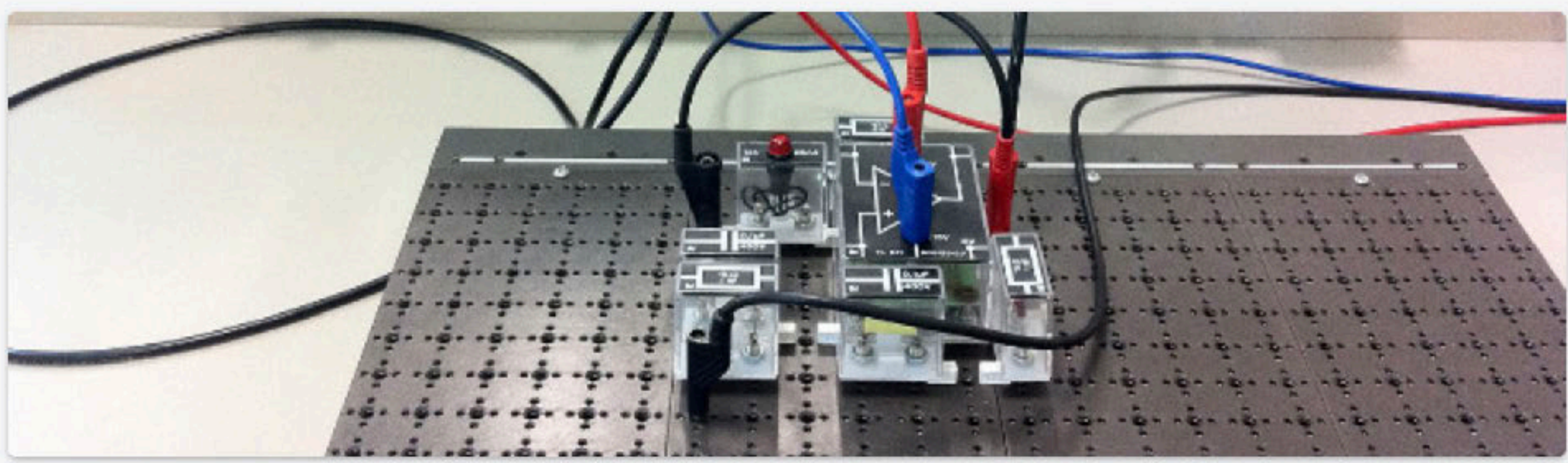












Deutsch English

- News
- Projects
- Showcase**
- Members of staff
- Statement
- Events
- Research
- Studies
- Contact

SPiRiT > Showcase

SPiRiT HF/RFID Simulator (ROSI-3D Project)



This HF/RFID Simulation was developed by research group SPiRiT in project ROSI-3D funded by German Federal Ministry of Education and Research. In

Tweets by @spirit_group

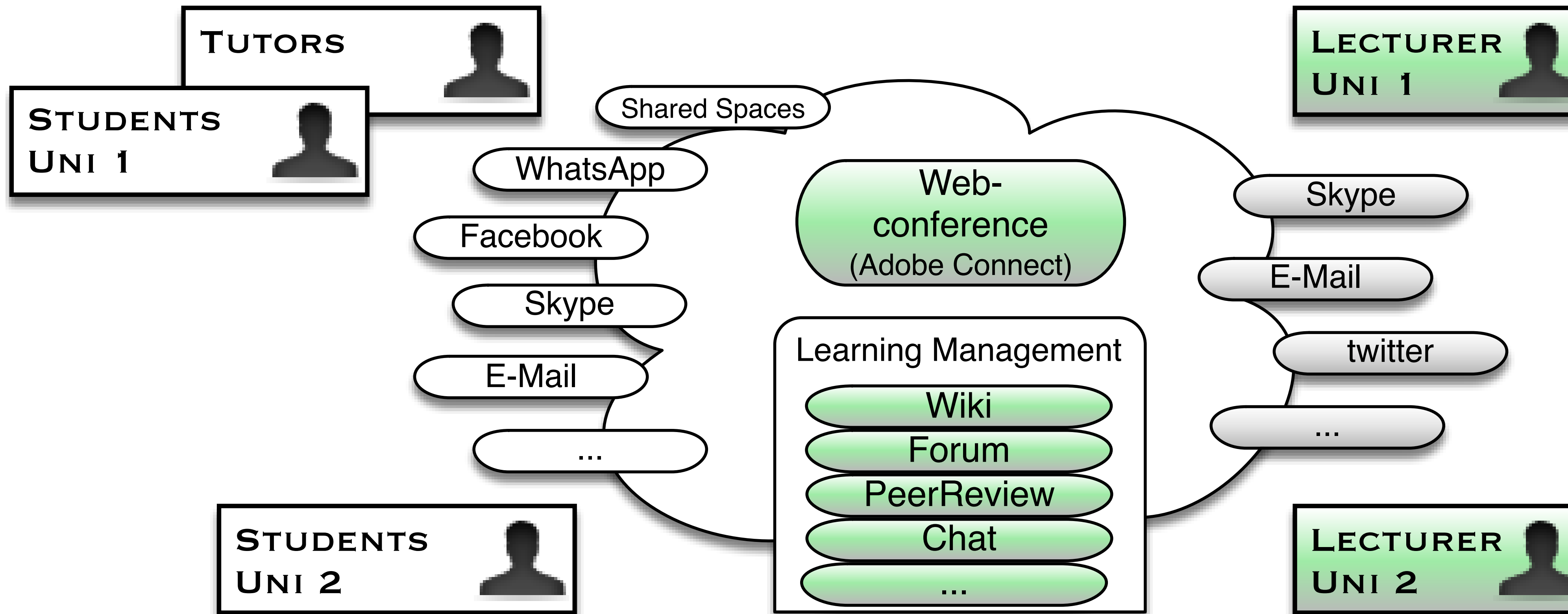
- SPiRiT Retweeted
- Michael A. Herzog** @maherzog
Wir suchen Nachfolge für IT-Leiter/in @hs_magdeburg! In unserem top ausgestatteten Kommunikations- & Informationszentrums arbeiten 22 engagierte Mitarbeiter/innen. #Jobs #Wirtschaftsinformatik hs-magdeburg.de/fileadmin/user...
- SPiRiT Retweeted
- Michael L. Nelson**

<http://spirit.hs-magdeburg.de>



<https://www.crossteaching.org>

Cross-Teaching-Tool-Setting



2

Inquiry-Based Learning – A Process Model

Learning Scenario »Scientific Paper Writing«

Topic: „Ethical issues of digital communication“

- ▶ 4 courses, 3 Master programmes, 2 Universities

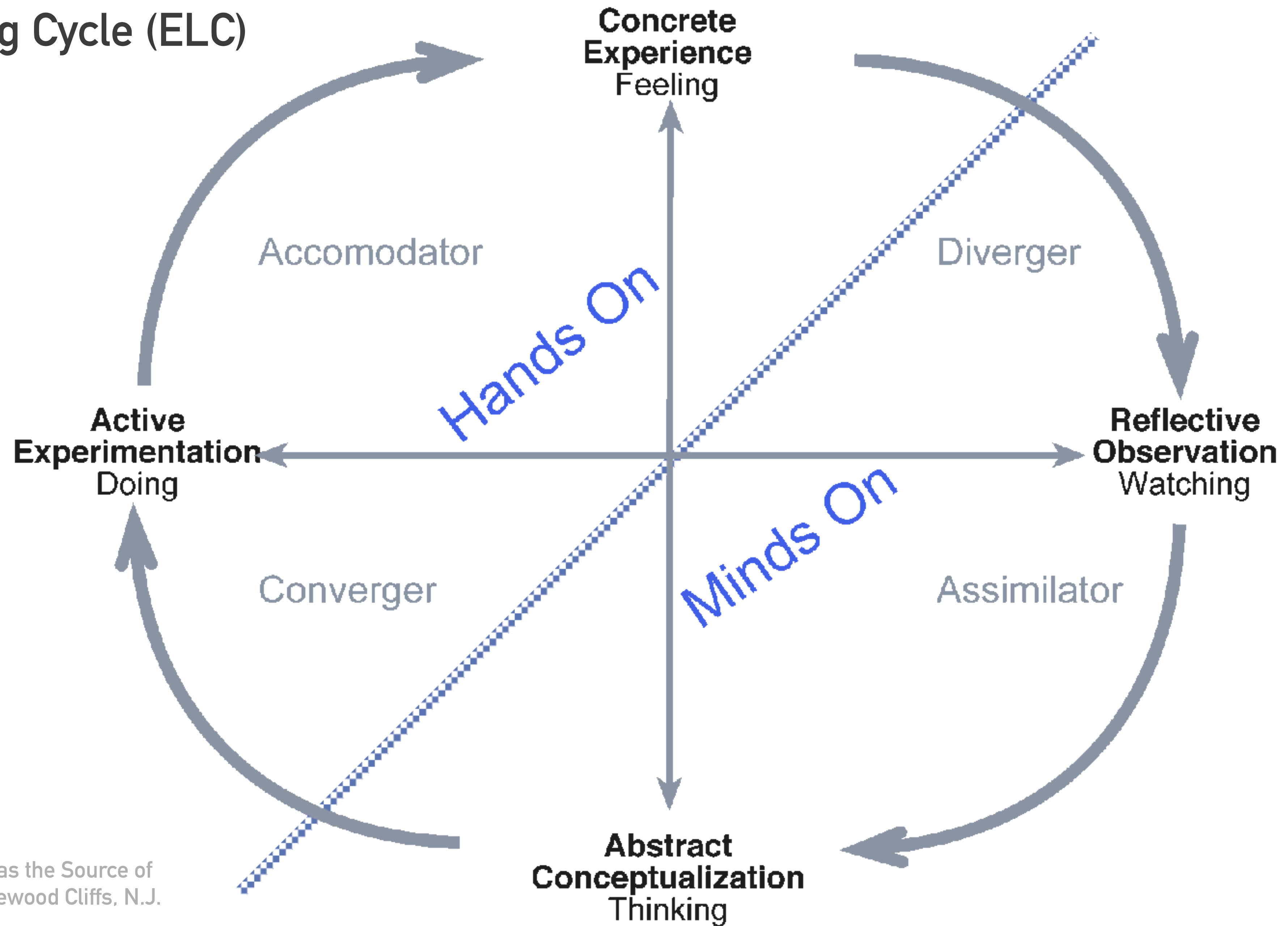


CROSS MEDIA



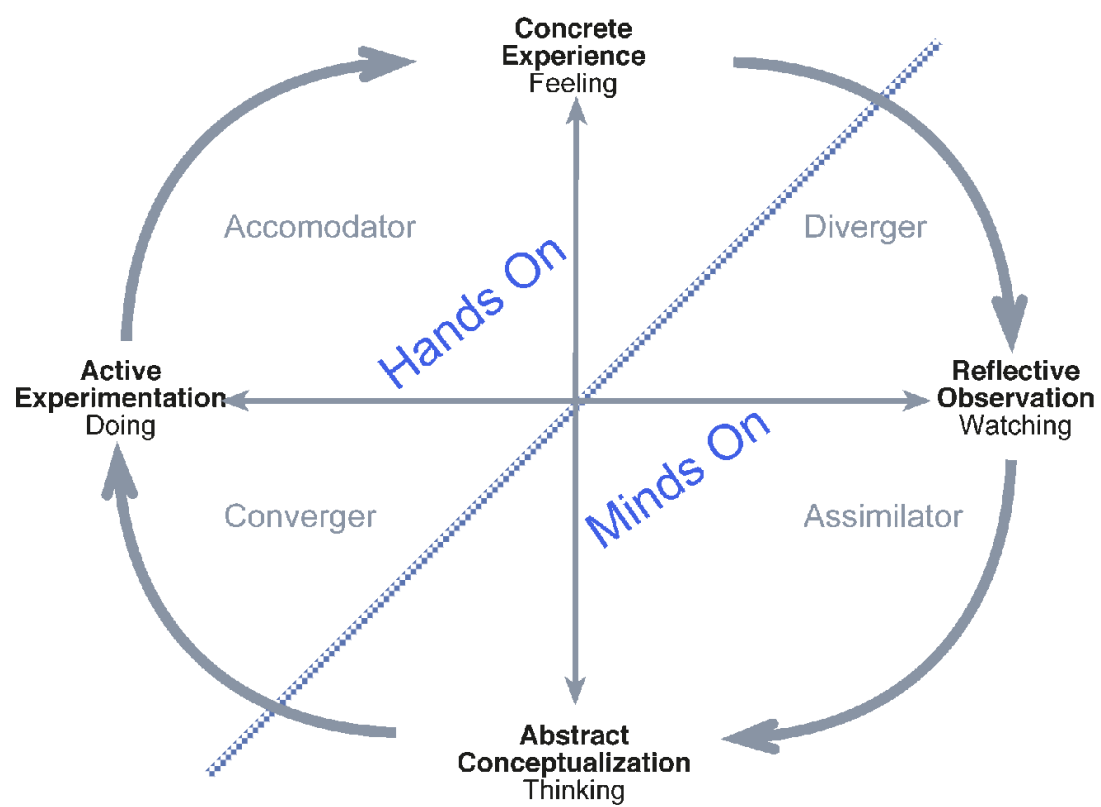
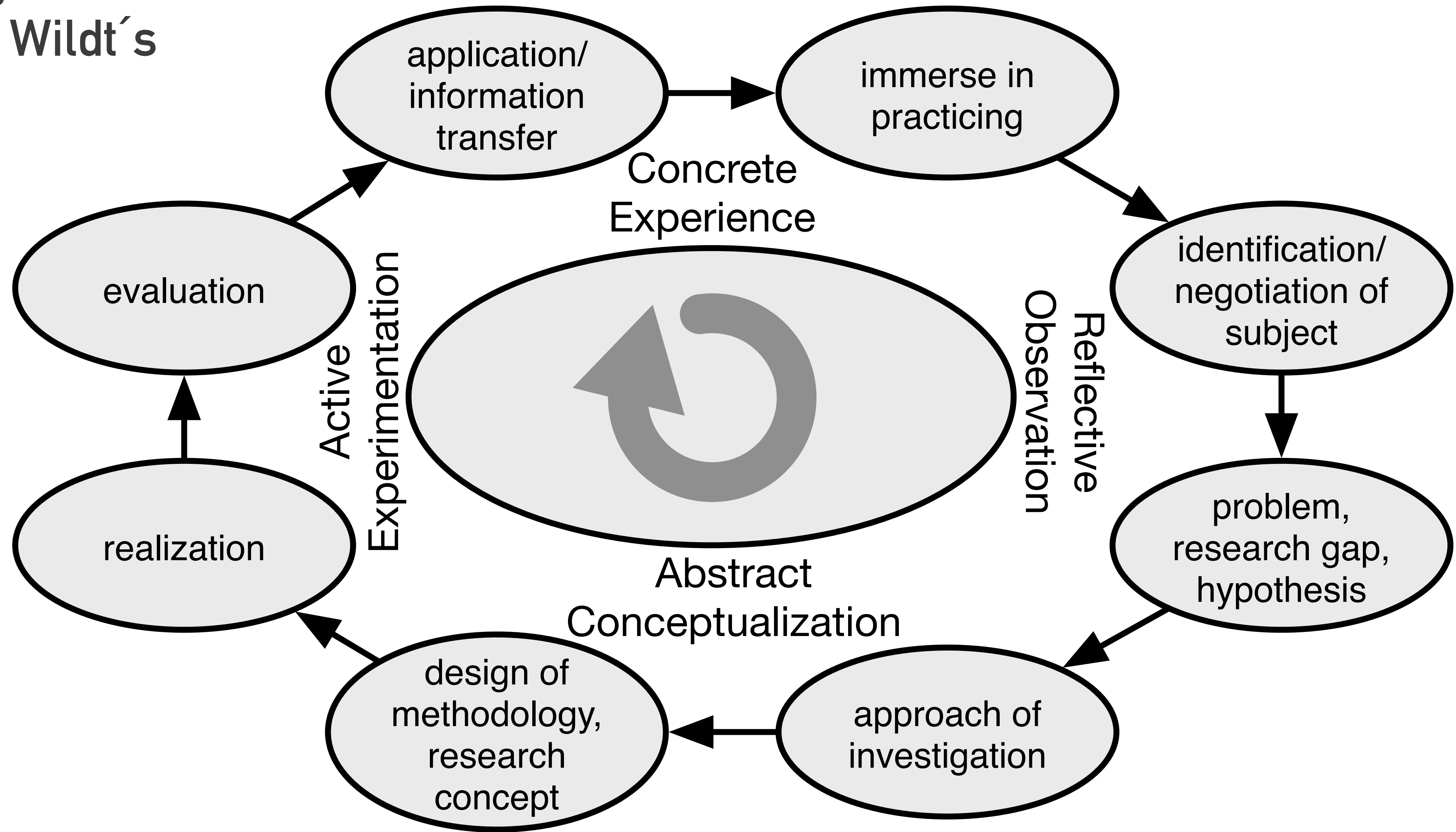
- ▶ Most of them Part-time students,
- ▶ High technology and media affinity
- ▶ 13 learning groups, 10 inter-university
- ▶ 39 students (21 female, 18 male), 4 Teachers involved (2 female, 2 male)
- ▶ ERASMUS+ funded

Kolbs Experiential Learning Cycle (ELC)



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



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

participants (44)

Hosts (1)

- Michael Herzog

Presenters (13)

- AndiBh
- Anja Schwarzer
- Anja S. Hasler
- Bernard Bettenhäuser (CM)
- Carina Agger
- Christiane
- Christiane Grötl
- Christina Lohvyerke
- Christoph Güssli
- Christoph Hueblbauer
- Claudia Brandl
- Diana
- Elisabeth Katzlinger
- Elisabeth Katzlinger 2
- Eugen Genz
- Florian Atzmüller
- Franz
- Jillian
- Jean-Philippe K
- Jones Wrensch, RM
- Karin Jäger, DBM

Chat (Everyone)

Jones W 2: Hallo

Laura Neumann: Guten Abend

Jones W 2: Kann man irgendwie seinen Namen ändern? :D

Jones W 2: ja

Tobias Hinterdorfer: ja

Matthias Döring: +

Matthias Döring: +

Bernard Bettenhäuser (CM): !

Matthias Döring: +

Michael Herzog: Schellen Sie bitte Ihre Kamera aus!

Jones W: Kann Jäger nicht

Michael Herzog: ... und ra ich nicht ra ich nicht

Jones W: kann man einzelne personen muten?

Karin Jäger, DBM: ist es ohne kopfhörer besser?

Jones W: in kroun ausschalten

Jones W: ja eben wie genau richtig

Jones W: oben rechts

Karin Jäger, DBM: ok danke

Jones W: ist gut

Matthias Döring: ein ge haben g.at.be ich das Mikro noch nicht verbunden

Matthias Döring: Nebend,

Nadine Kostka: Hi hi

Sebastian Milosic: rau Kostka, ich grüße sie

Jones Wrensch, RM: wir sollen es ausschalten

Jones Wrensch, RM: muten

Nadine Kostka: alles klar, bin ist aus

Anja Schwarzer: Mein, Mo n

camera & audio (23)

Participants visible in the grid:

- Michael Herzog
- Matthias Döring
- Karin Jäger, DBM
- Leonore Trent
- Sebastian Milosic
- Eugen Genz
- Jones Wrensch, RM
- Laura Neumann
- sebastianraab
- Thomas Kolischko
- Nina
- Jillian
- Claudia Brandl
- Marie Sophie Hutter
- Christoph Hueblbauer
- Lisa Maria Reiter
- Martin Stabauer
- Elisabeth Katzlinger
- Nadine Kostka
- Nadine Mittermüller
- Franz
- Florian Atzmüller
- Diana

Help

- Sharing
- discussion
- collabo...
- Videocoll

Online-KickOff
Oct. 2017



Research Workshop
JKU Linz, Nov. 2017



Research Workshop
JKU Linz, Nov. 2017



Research Workshop
JKU Linz, Nov. 2017





BEST PROPOSAL BEWERTUNG

Thema,
Innovationspotential
(Sterne)



Methodik,
Forschungsdesign
(grün)



Organisation, Zeitplan,
Durchführbarkeit (gelb)







GET
SHIT
DONE



PeerReview (Online-Assessment)

Closed

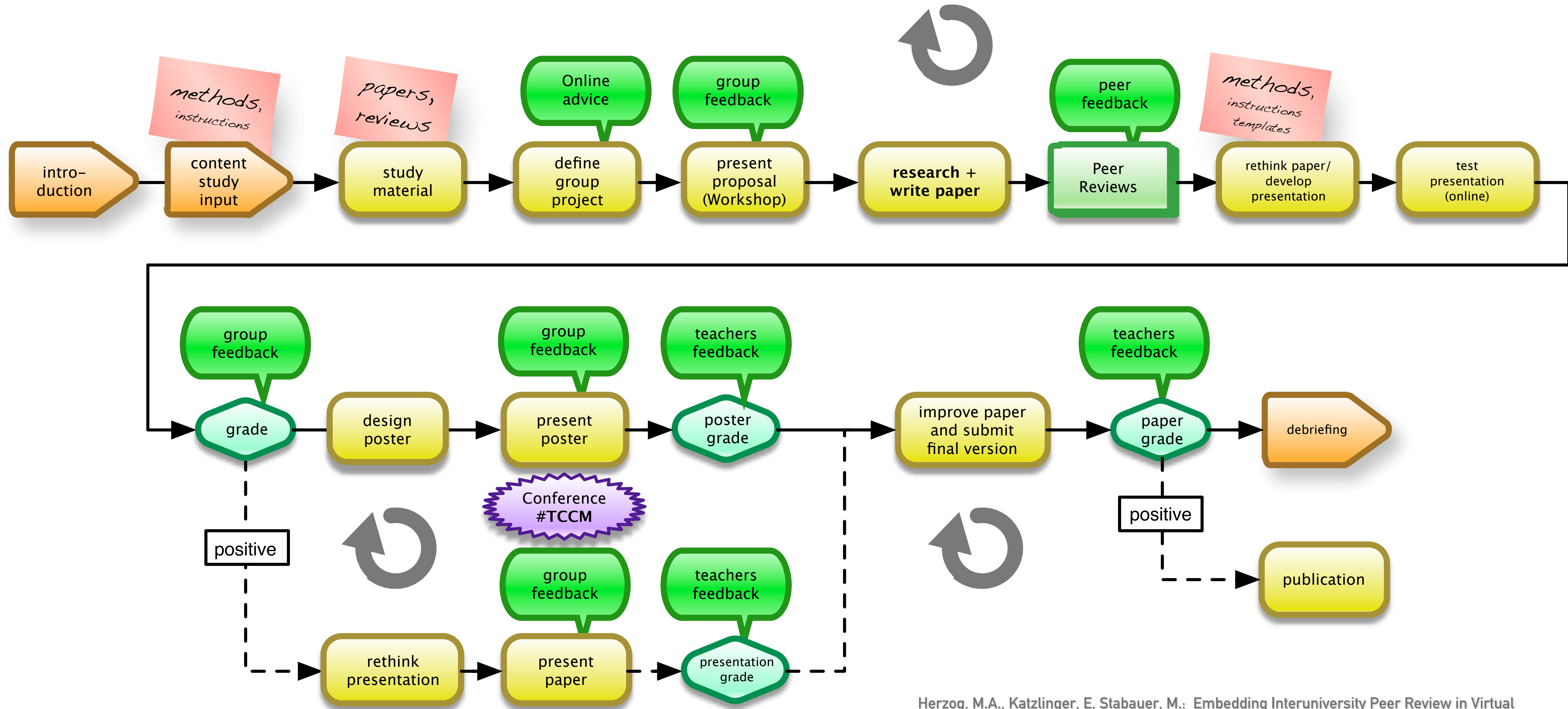
Setup phase 	Submission phase 	Assessment phase 	Grading evaluation phase 	Closed
<ul style="list-style-type: none"> ✓ Set the workshop description ✓ Provide instructions for submission ✓ Edit assessment form 	<ul style="list-style-type: none"> ✓ Provide instructions for assessment ✗ Allocate submissions <ul style="list-style-type: none"> expected: 40 submitted: 38 to allocate: 2 ⓘ There is at least one author who has not yet submitted their work ⓘ Open for submissions from Monday, 19 December 2016, 1:00 PM (200 days ago) ⓘ Submissions deadline: Monday, 9 January 2017, 9:00 AM (179 days ago) ⓘ Late submissions are allowed ⓘ Time restrictions do not apply to you 	<ul style="list-style-type: none"> ⓘ Open for assessment from Monday, 9 January 2017, 10:05 AM (179 days ago) ⓘ Assessment deadline: Sunday, 22 January 2017, 11:55 PM (166 days ago) ⓘ Time restrictions do not apply to you 	<ul style="list-style-type: none"> ✗ Calculate submission grades <ul style="list-style-type: none"> expected: 40 calculated: 38 ✗ Calculate assessment grades <ul style="list-style-type: none"> expected: 40 calculated: 39 ✗ Provide a conclusion of the activity 	

Workshop grades report

Visible groups

First name  / Surname 	Submission  / Last modified 	Grades received	Grade for submission (of 70) 	Grades given	Grade for assessment (of 30) 
 	Mit welchen Methoden beeinflussen YouTuber der Beautybranche ihre Zielgruppe auf YouTube? modified on Sunday, 8 January 2017, 9:56 AM	53 (30) <   55 (30) <  	54 <u>54</u>	68 (30) >   65 (30) >  	30
 	CodeofConduct AMT Peer Review modified on Monday, 9 January 2017, 8:59 AM	68 (30) <   57 (30) <  	63 <u>56</u>	52 (30) >   57 (30) >  	30

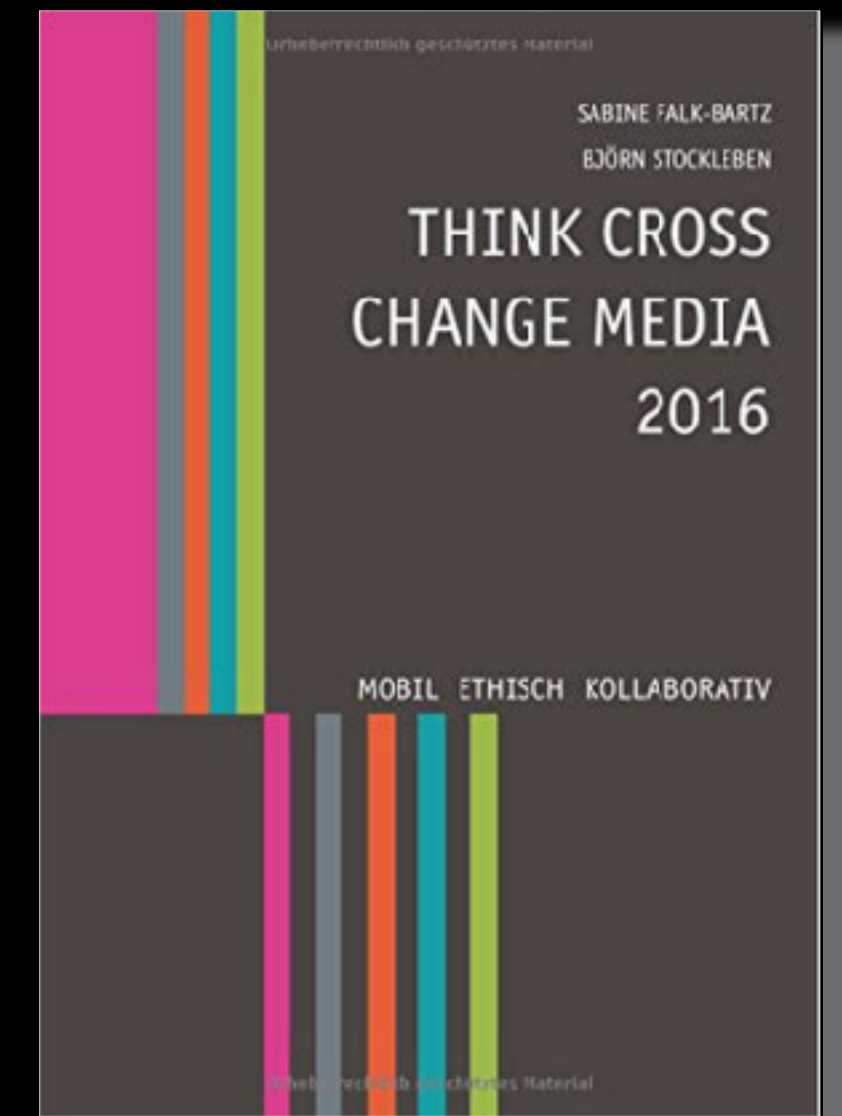
Full Research Process



Herzog, M.A., Katzlinger, E., Stabauer, M.: Embedding Interuniversity Peer Review in Virtual Learning Groups. A Research-based Learning Scenario. In: Emerging Technologies for Education. SETE 2016, PRASAE2016. Lecture Notes in Computer Science, vol 10108. Springer



#TCCM Conference, Magdeburg, Feb. 2017



#TCCM Conference,
Magdeburg, Feb. 2016

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04/26
2018

Analysis of Peer Review Feedback

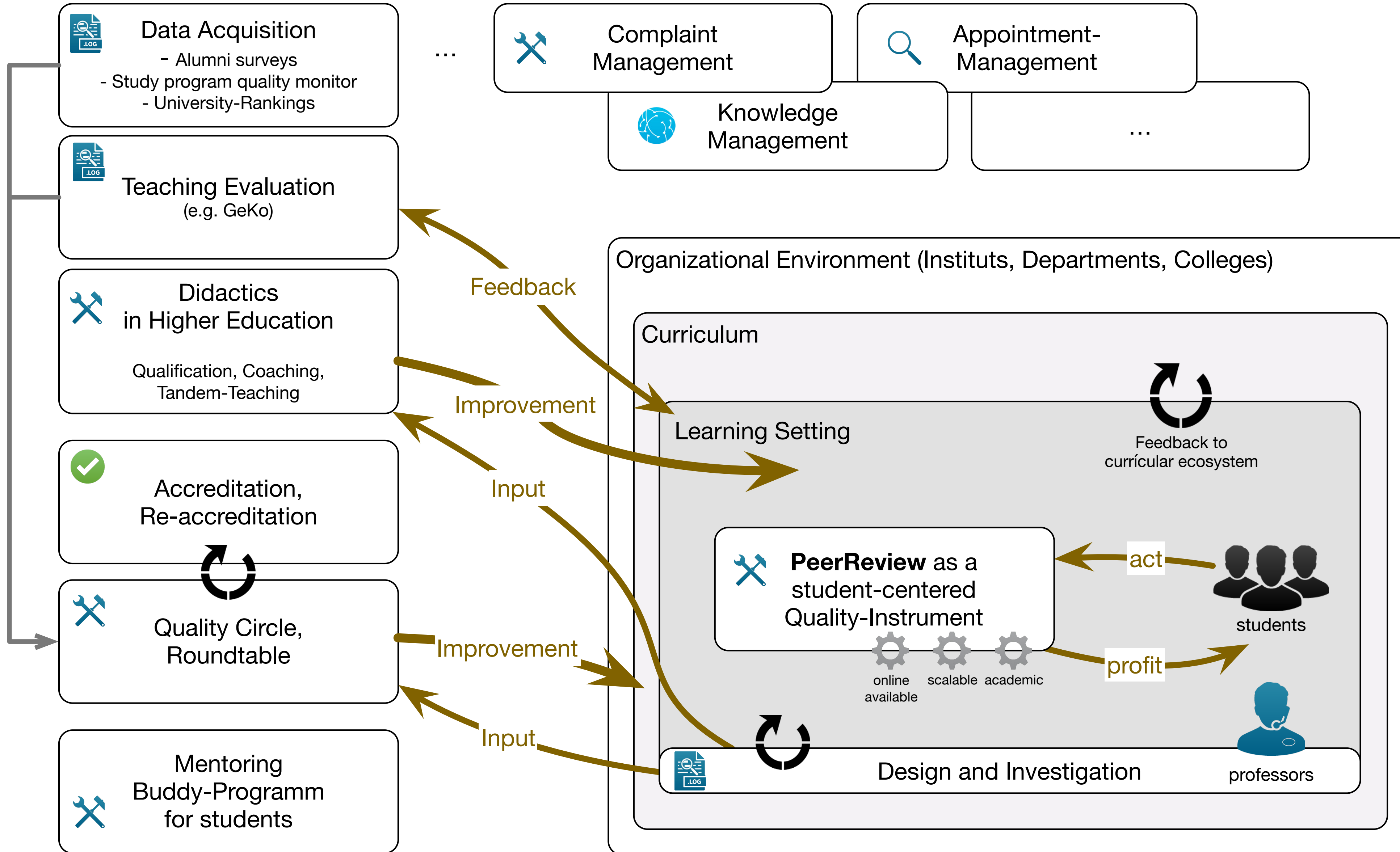
Inquiry Based Learning Process • Conference

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3

Previous Work and Methodology

Quality Management System in Higher Education

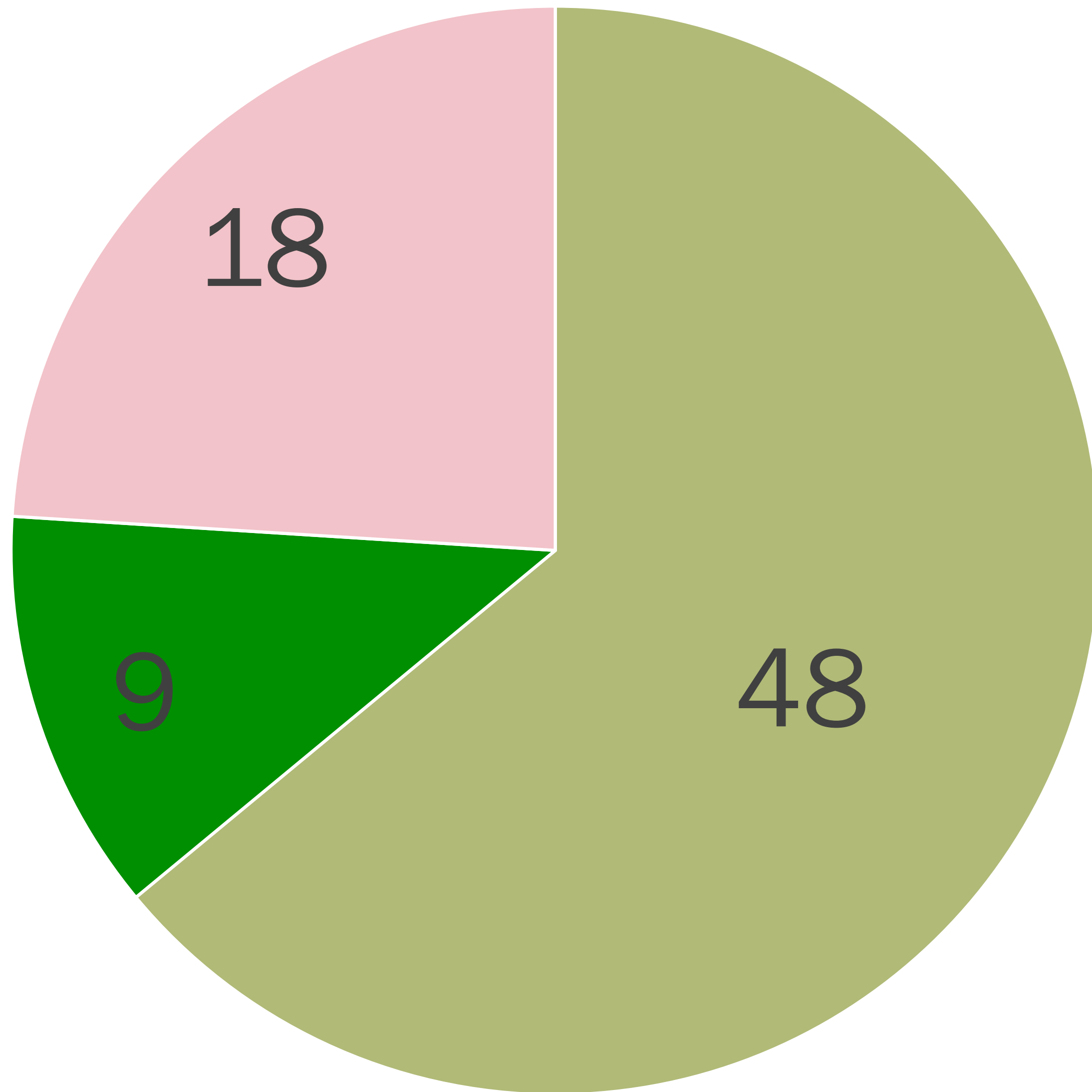


Herzog, M.A., Franz, L., Katzlinger, E., Stabauer, M.: Peer Review as a Quality Management Tool Embedded in an Inquiry-based Learning Scenario. In: Proceedings of 16th International Conference on Information Technology Based Higher Education and Training, ITHET2017



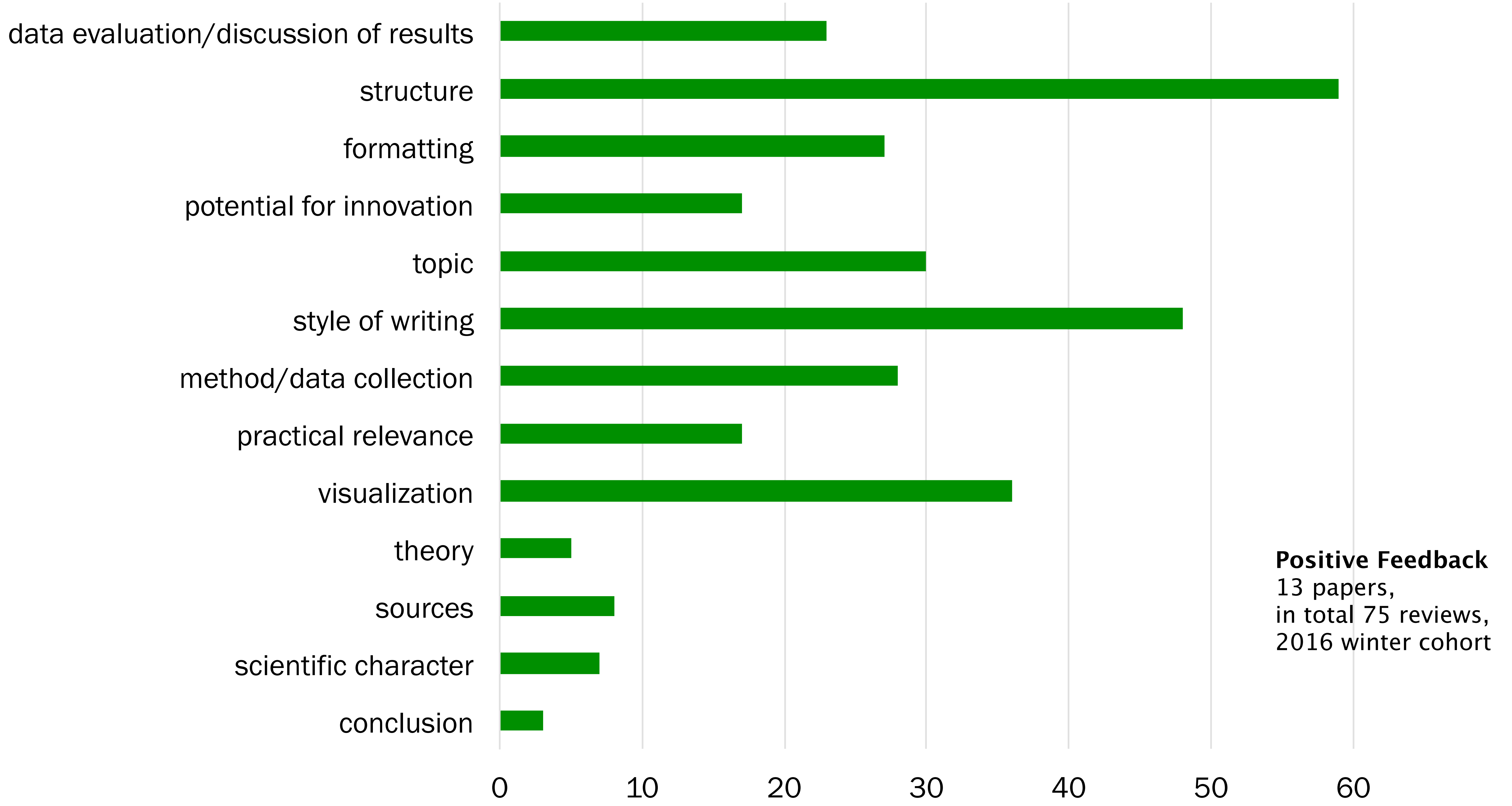
Last Years Question:
 What is really in all
 that Peer Reviews?

Quality of Peer Review feedback



- adequately helpful
- very helpful
- not helpful

13 papers, in total 75 reviews, 2016 winter cohort



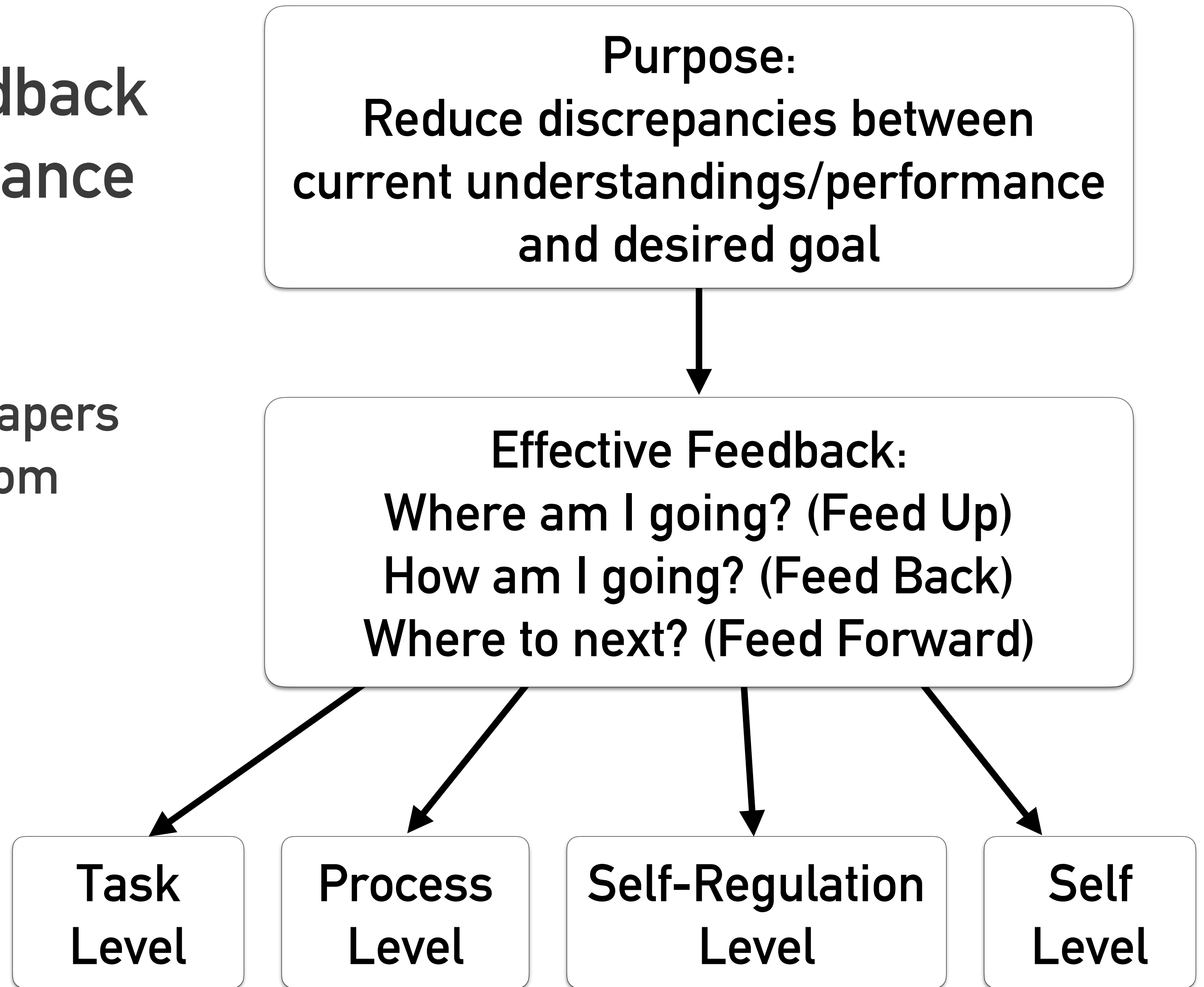


Negative Feedback
 13 papers,
 in total 75 reviews,
 2016 winter cohort

This Years Question:
How the received peer feedback improves the final performance of students papers?

- ▶ Qualitative investigation of the implemented feedback in final papers using Peer Review categories from Hattie/Timperley 2007

J. Hattie, H. Timperley, "The Power of Feedback" in Review of Educational Research Vol 77, Issue 1, 2007, pp. 81 – 112.



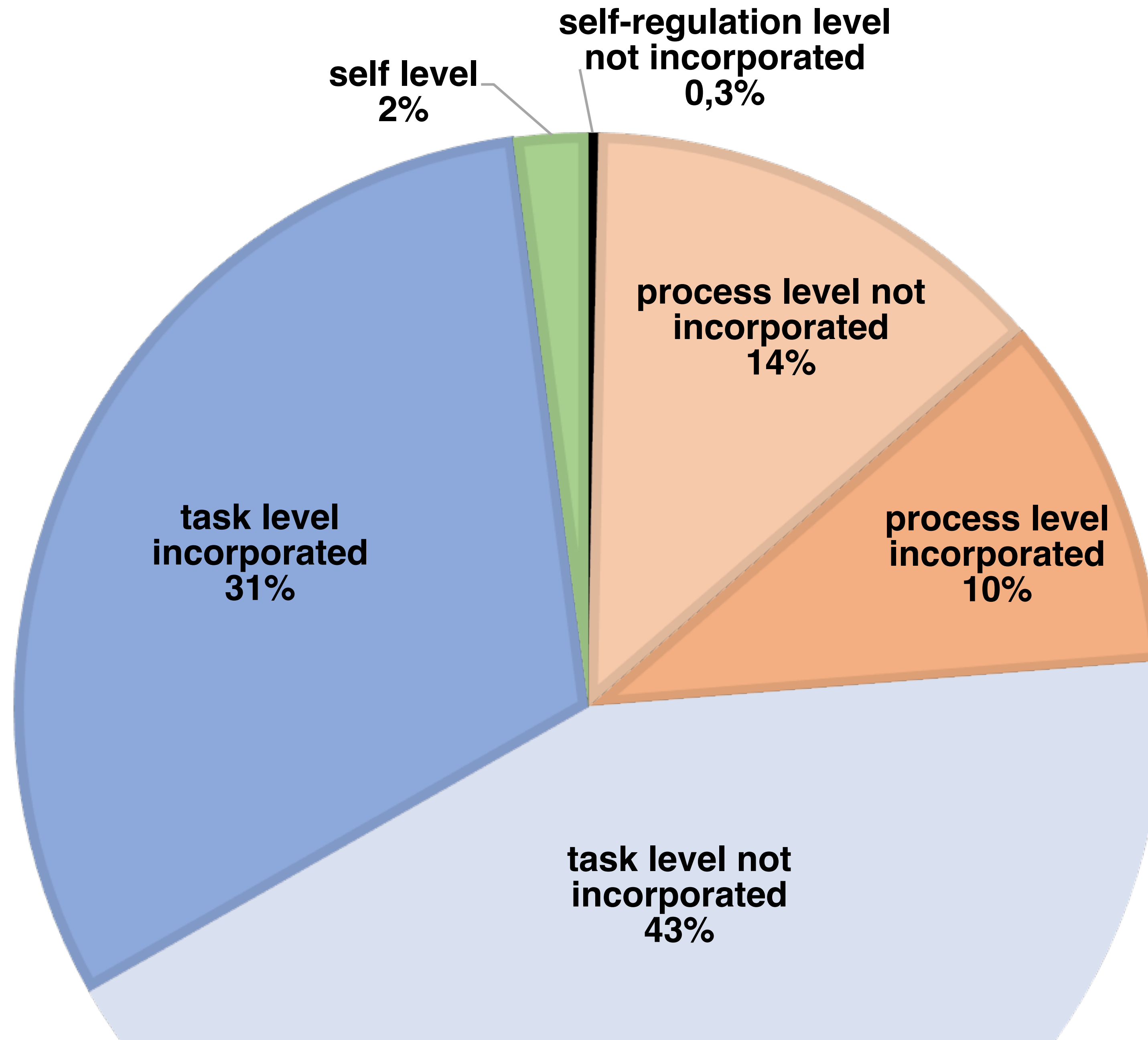


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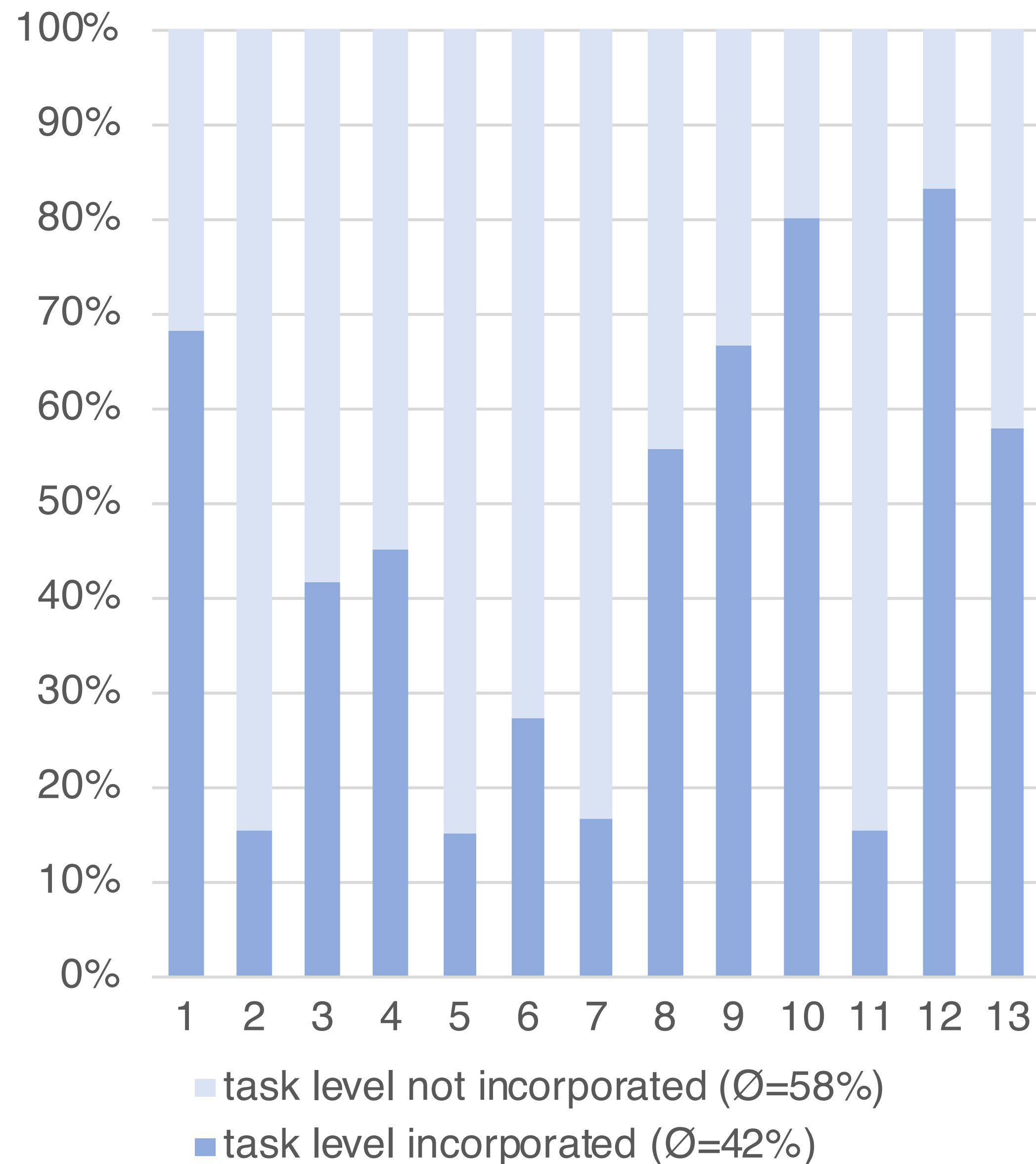
Result Discussion

- ▶ What kind of feedback made it into the final paper?
- ▶ How much this incorporation helped students to perform?

Overall feedback



Task level feedback



Not incorporated feedback

“The citation in footnotes should be adjusted to the [professors’] requirements: sources included in the text without footnotes.”

(transl.: group 7: 1: 13460 - 1: 13657)

“The only point of criticism – graphics and visualizations would help to upgrade the paper!”

(transl.: group 10: 1: 17810 - 1: 17879)

“The subject of research, respectively the research question is not clear from the beginning.”

(transl.: group 13: 1: 19072 - 1: 19151)

Incorporated feedback

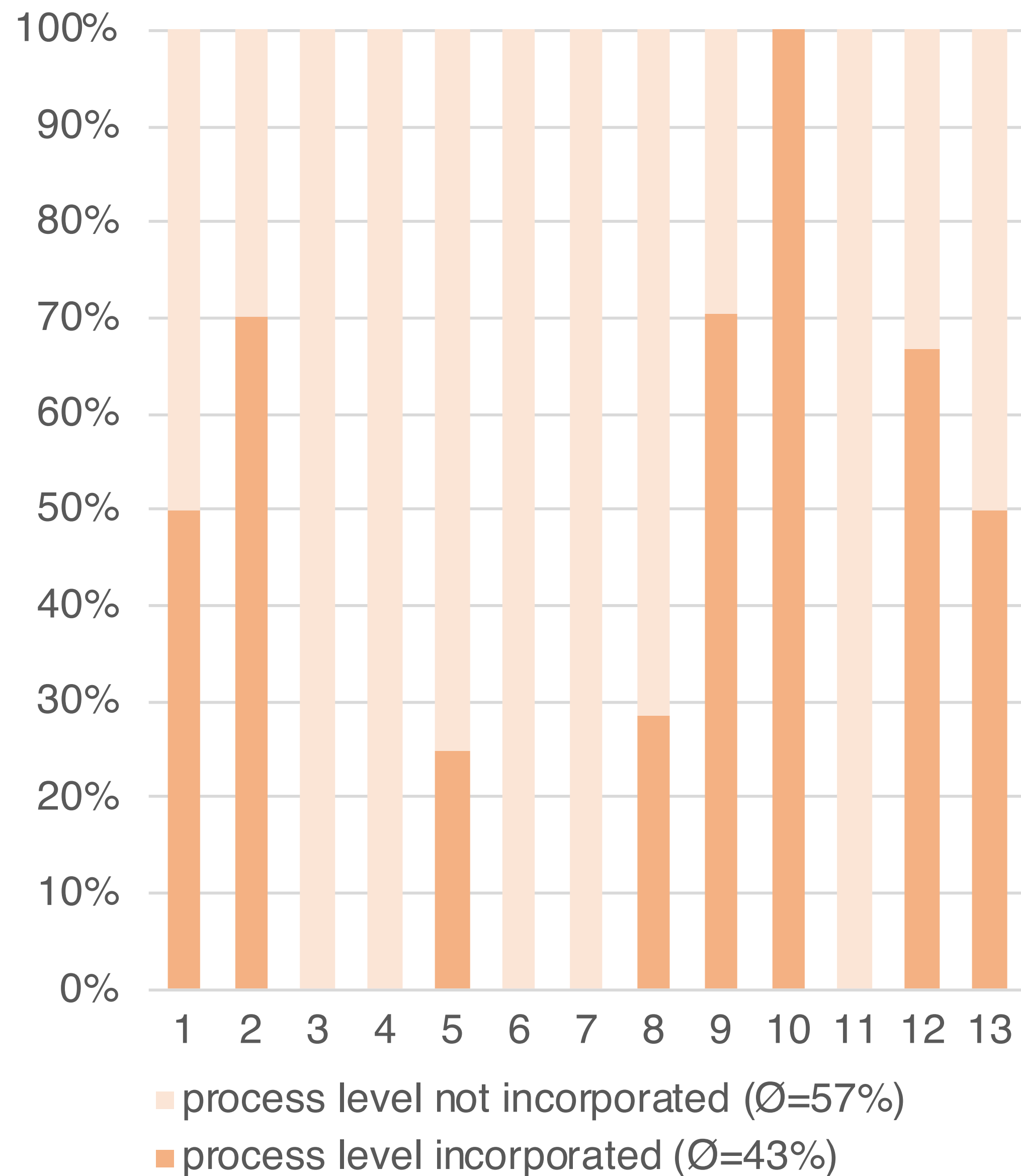
“An important element in understanding the results is to add the pictures for group 1 and 2 at least to the annex.”

(transl.: group 12: 1: 7775 - 1: 7883)

“Please shorten the paper, to stick to the 10 pages that were required.”

(transl.: group 09: 1: 11338 - 1: 11417)

Process level feedback



Not incorporated feedback

“There are little weaknesses in the methodology part, as you are talking about case studies. You have to choose the test persons according to certain criteria. However, you do not explain the selection. Therefore, it seems that you conducted a randomized online survey (which is not bad and at one point you even mention it). Still, you should explain how you reached out to the test persons.”
(transl.: group 7: 1: 4446 - 1: 4953)

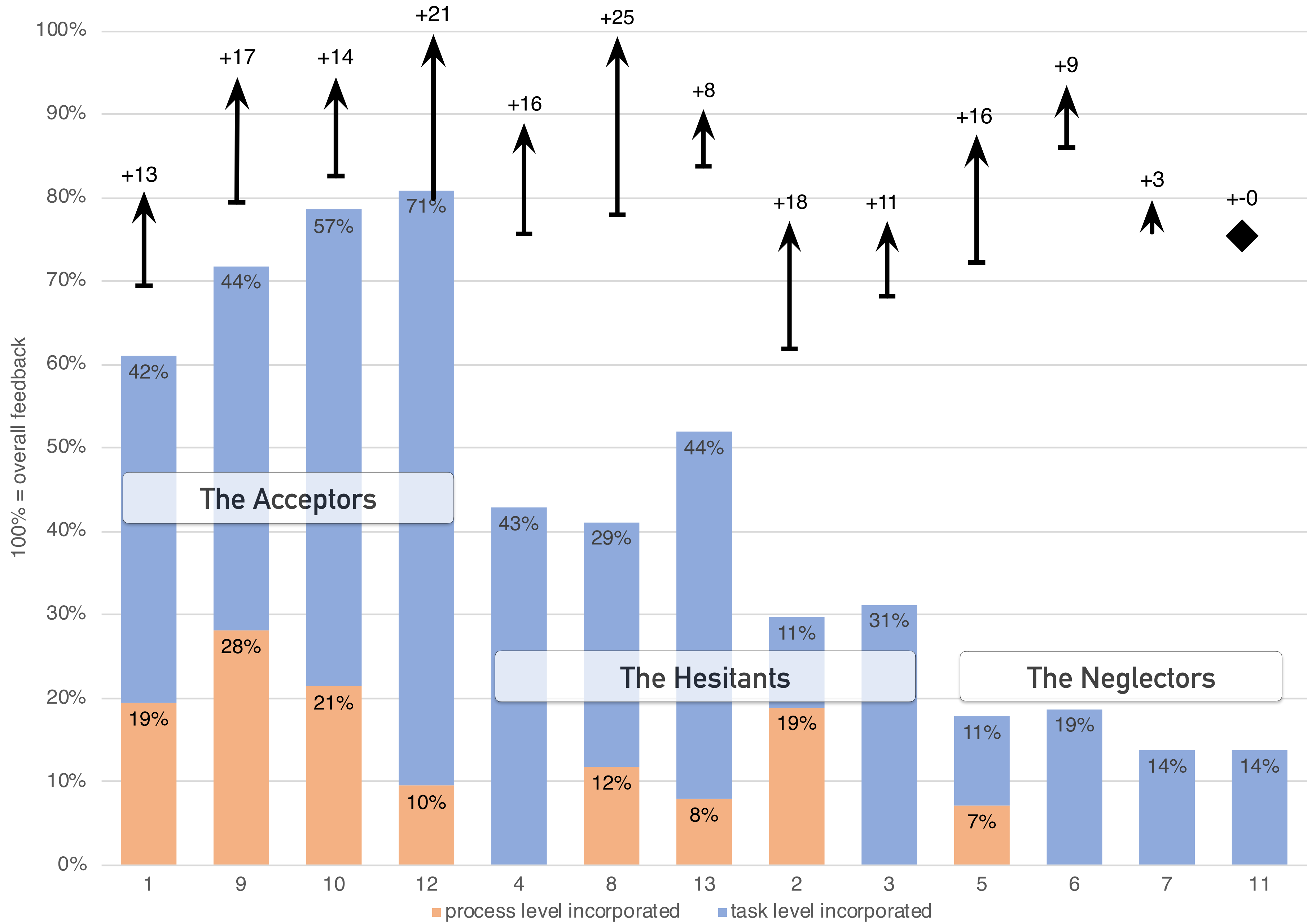
“In the research objectives you say that you want to analyze if [...] Where do you comment and relate to that in the latter part of the paper? The results and learning should be included in the conclusion.”
(transl.: group 11: 1: 22091 - 1: 22384)

Incorporated feedback

“The description of the method (case study) used is too extensive. You should rather outline it shortly in one paragraph. It is more interesting for the reader why you used this research method to analyze the problem.” (transl., group 2: 1: 3816 - 1: 4167)

“How does the research environment look like? Are there any reference theories or papers? One needs to understand in which state of research your paper is embedded.” (transl.: group 12: 1: 8029 - 1: 8111)

Grouping



Experiences and Learnings

- ▶ 70% increased the performance by more than 10%
- ▶ For 30% of the groups peer review was seen as not useful
- ▶ 92% improved their work even they did not incorporate feedback
- ▶ Low performers profit from peer review as well as the top group
- ▶ Process level feedback was more incorporated than (easier) task level feedback
- ▶ We find no direct correlation between quality of feedback and incorporation rate

WORK

Thank you for your interest!

Q & A

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