re-ment
Reverse mentoring as a way to deconstruct gender related stereotypes in ICT

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International Week 2017

Overview

- Aims of the project *re-ment*
- Gender gap in IT
- Reverse mentoring in education
- The project *re-ment* – Implementation of reverse mentoring in schools in Lower Austria and Vienna
- Evaluation
- Results
- Sustainability

re-ment – a Reverse Mentoring Approach

The project aims at

- Raising the interest of female students for ICT professions
- Deconstructing gender related stereotypes in ICT
- Change of perspectives – resources oriented approach
- Change the view of technology
- Gender gap in IT

http://www.channelinsider.com/

WHY SHOULD WOMEN STUDY COMPUTER SCIENCE?

Computer Science

Even with an economic downturn, new Computer Science graduates are the most likely among all majors

to have received a job offer

In 2009, female professionals employed in computer fields earned a median of

$1,253 weekly, compared to $887 median weekly for education or $970 median weekly in health care

$1,253
median weekly

The 2013 average salary in Computer Science is

$59,977

up from $57,529 in 2012, and

$10-$20,000 more

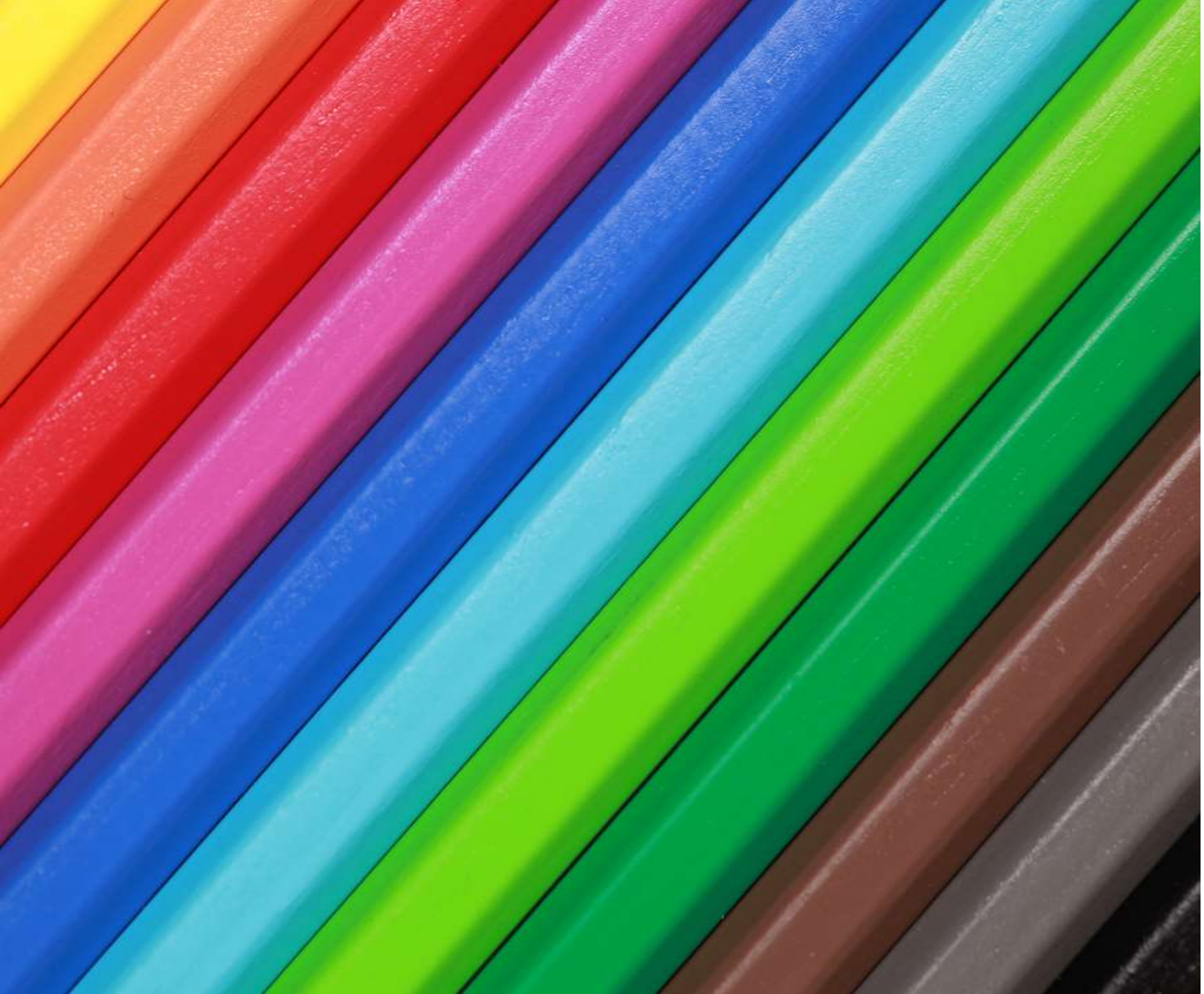
than other fields most women work in

Source: New Jersey's Science & Technology University

Reverse-mentoring is a „young“ Concept

- 1999: General Electric/Jack Welch
- Procter & Gamble, Unilever, Dell, Time Warner, Deloitte & Touch…
- Frequently implemented in organizations/HR departments

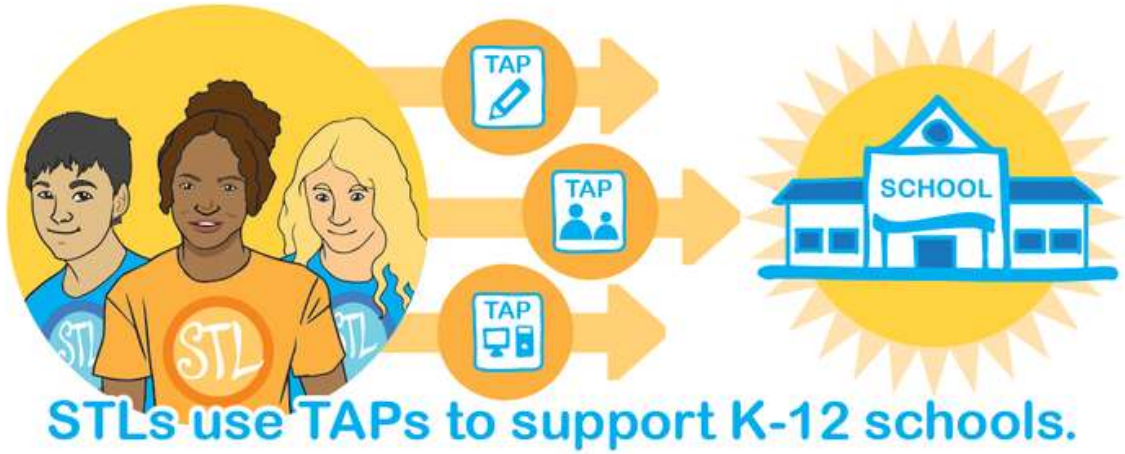
- Advantages:
  - Mentor: networks, business culture, leadership development
  - Mentee: state-of-the art expertise, individually adjusted
  - Organizations: cost-efficient further education, improvement of intergenerational collaboration, understanding for each other



Reverse Mentoring in Education

GenYes (USA)

- Students (K12) are trained to “Student Technology Leaders (STLs)”
- The aim is to support teachers or trainers in integrating IT in their classes
- This is achieved by an online helpdesk
- GenYes has been working successfully for more than 15 years



https://www.genyes.org/genyes/

mouse_

https://mouse.org/

Kaiawhina (New Zealand)

- 2 projects in schools in New Zealand
- Direct, immediate support in classes by selected – IT competent – students
- Acceptance and positive evaluation by the mentees (teachers)

Reverse-Mentoring – teach your teacher!
Weitere Infos auf **www.re-ment.at**

DEFINITION

“Reverse-mentoring is a specific form of mentoring and refers to a reciprocal and timely stable developmental partnership between one or more less experienced mentor/s providing specific expertise and one or more experienced mentee/s who want/s to gain this knowledge. The partnership is characterized by reciprocity and mutual respect and it aims at both, the development of the mentors and the mentees. In applying a networked perspective, it may take advantage of digital technology.”

Major Steps

- October 2015 – September 2017
- Prototype implementation is funded by the Austrian government
- Four partner schools in Lower Austria and Vienna
- Evaluation
- First findings are already published
- 2 international conferences:
  - ICERI2016 – *9th annual International Conference of Education, Research and Innovation*
  - ICM2017 – *13th International Conference on Mobile Learning*
- Teacher trainings and teaching material
- Module for the New Upper Secondary School

Progress of re-ment in Schools

- Meeting with school coordinators
- Coaching with mentors
- Kick-Off meetings in schools (Sept/Oct 2016)
- Implementation of reverse mentoring in schools (one semester, 5 meetings on average)
- Closing meetings in schools
- Closing conference (Sept 2017)

Coaching Sessions

- Professional coaches
- Systemic-constructivist approach
- Tree of Life
- Be aware of their (ICT) strengths
- Empowerment

Kick-Off Meetings in Schools

- Matching
- Agreement on objectives
- Documentation of mentoring meetings
  - Objectives
  - Progress
  - Minutes

Implementation of Reverse Mentoring in Schools

- Mentors: young girls, aged between 16 and 17
- Mentees: parents / teachers
- In schools (max. of 8 meetings/tandem)
- Worked on ICT issues (ICT questions that arose by mentees)
  - Excel, Word, Power Point, Photoshop, Gimp…
  - File management
  - Skype, Social Networks (Facebook)
  - Mobile devices: personalisation, transferring data
- Most ICT questions were related to personal issues:
  - Pictures
  - Household budget
  - Stay in contact
  - Teaching material, online learning platforms (teachers)

DEFINITIONS

E-mentoring

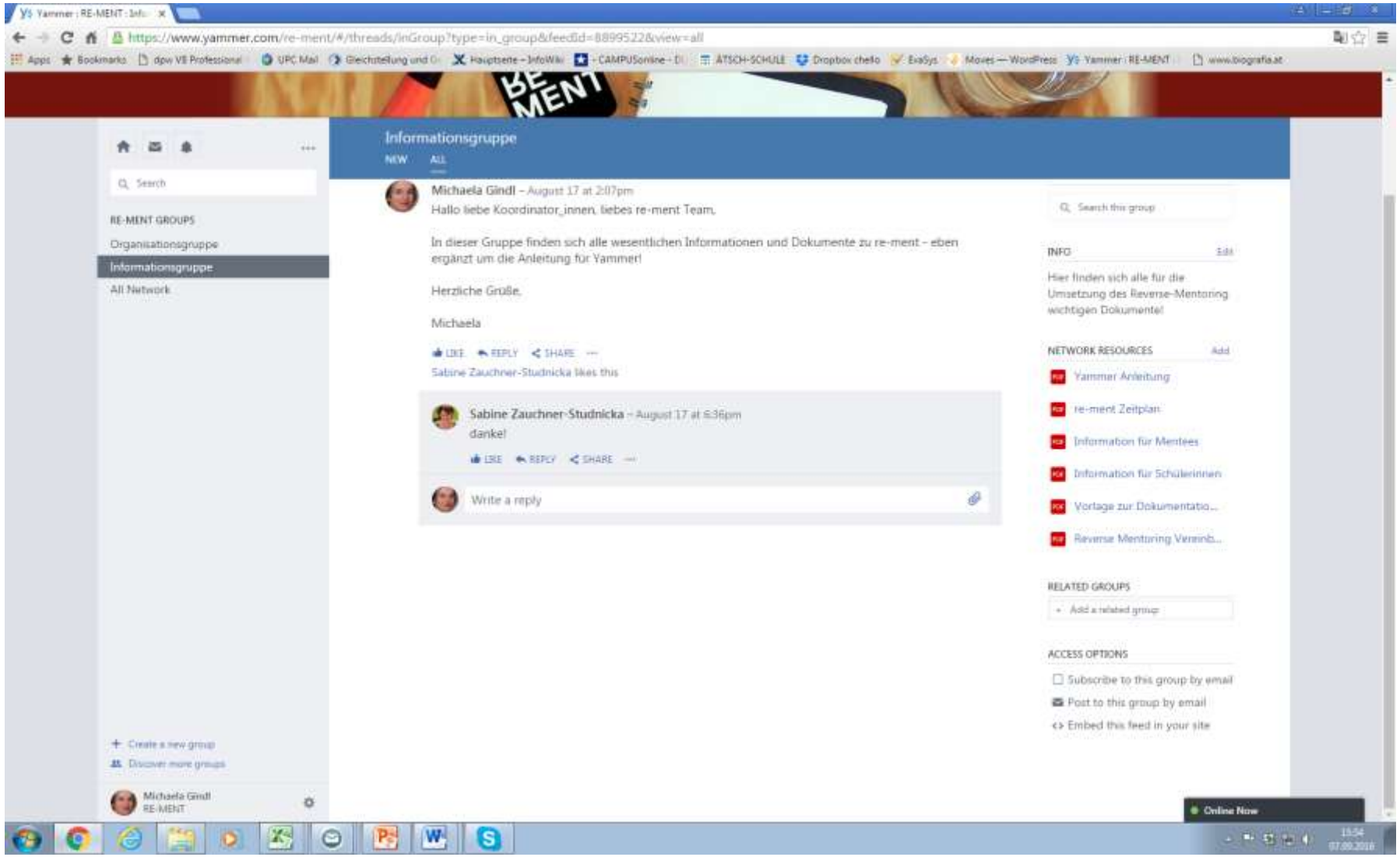
"a special form of mentoring where communication takes place online, at least partly" (Stöger, 2009, p. 229)

"Reverse mentoring is an innovative way to encourage learning and facilitate cross-generational relationships."

„The most positive outcome for us was, that web 2.0 was a catalyst for the strengthening of our professional relationship, underpinned by deeper levels of honesty, trust and respect for each other." (Giddens & Phillips, 2009, p. 9)

YAMMER

https://www.yammer.com/re-ment



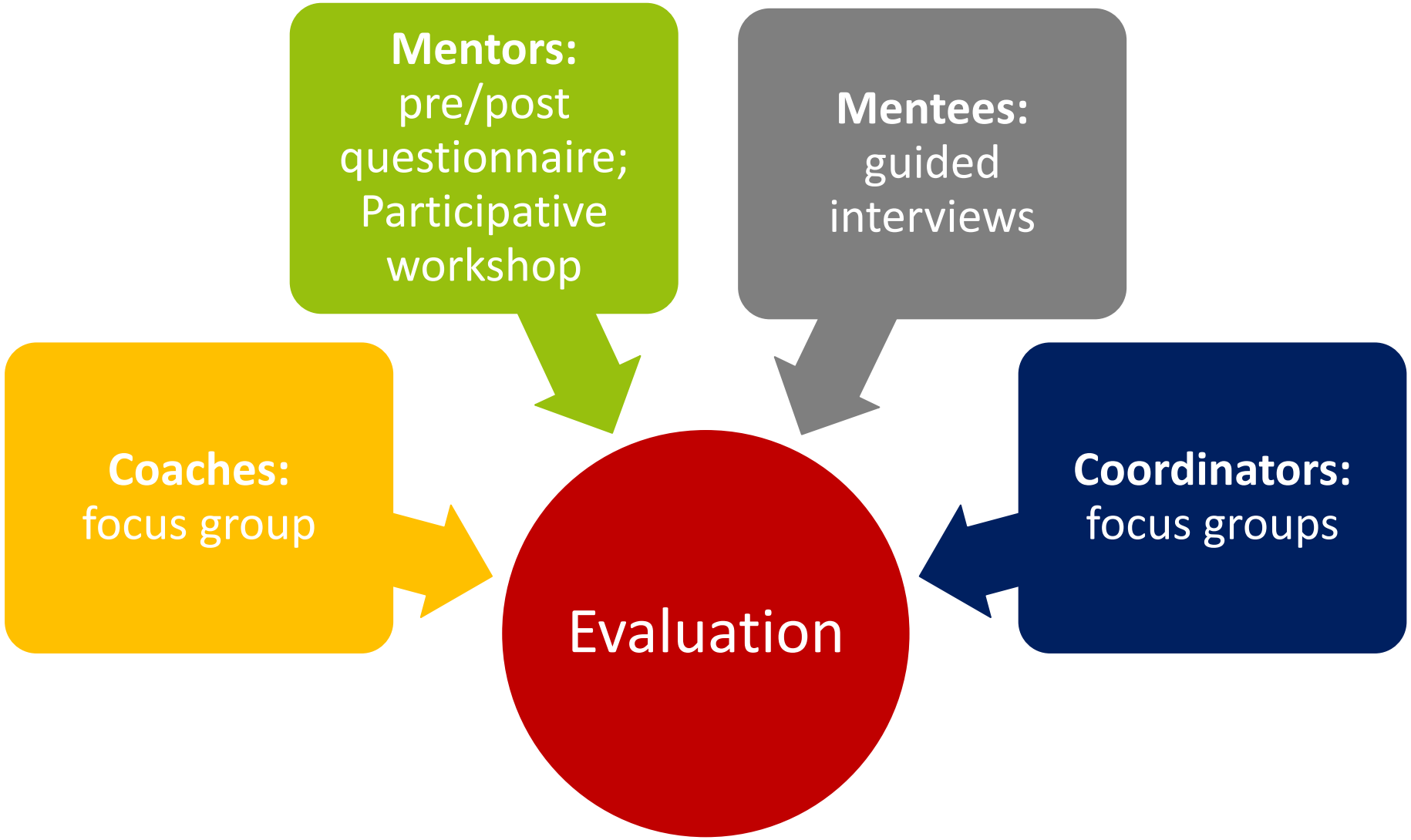
Closing Meetings in Schools

- Tandems
  - Relationship
  - Present results
  - End the reverse mentoring process
- Evaluation Workshop
- Certificate

Closing Conference

- September 2017
- University College for Teacher Education in Lower Austria, Campus Baden
- 2 key notes:
  - Univ.-Prof. Dipl.-Inf. Dr. phil. habil. Bernhard Ertl
  - MMag.^{a} Dr.^{in} Anita Thaler
- Project results
- Tandems present their experiences
- World cafe

Evaluation


Mentors: pre/post questionnaire; Participative workshop
Mentees: guided interviews
Coaches: focus group
Coordinators: focus groups
Evaluation

Pre/post Questionnaire

technological self-concept (Vincent & Jannek, 2012)

- ICT experience
- Fascination for ICT
- Comprehension
- Creative use of ICT
- Technosis
- Utilization of ICT
- Competence
- Self-efficacy
- Attribution
- Intuitive approach
- Opinion

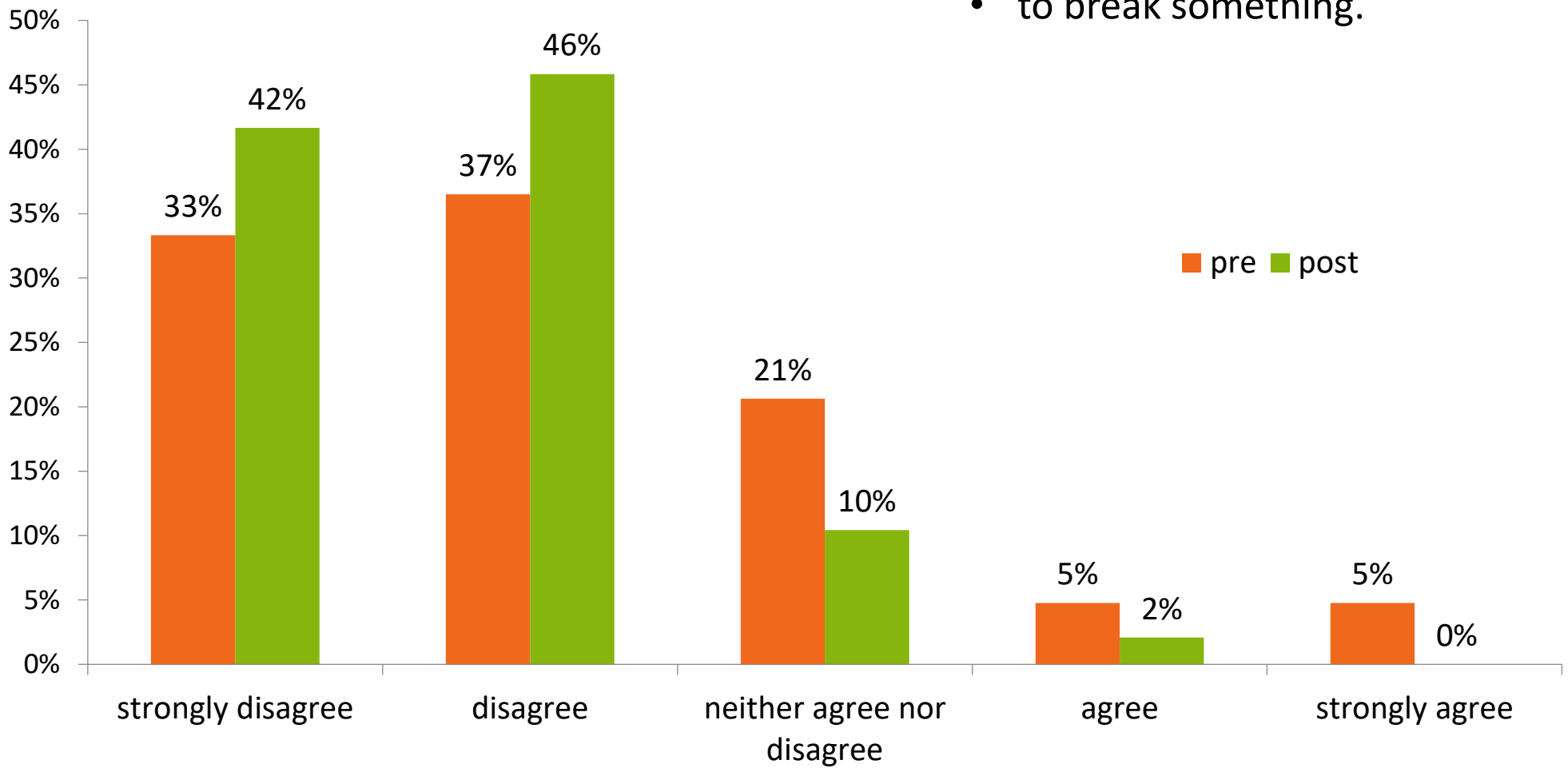
social competences (Grob & Merki, 2001)

- Empathy
- Ability to work in teams
- Assertiveness
- Ability to establish contact
- Self-confidence
- Ability to take criticism
- Coordination skills

Likert-Scale

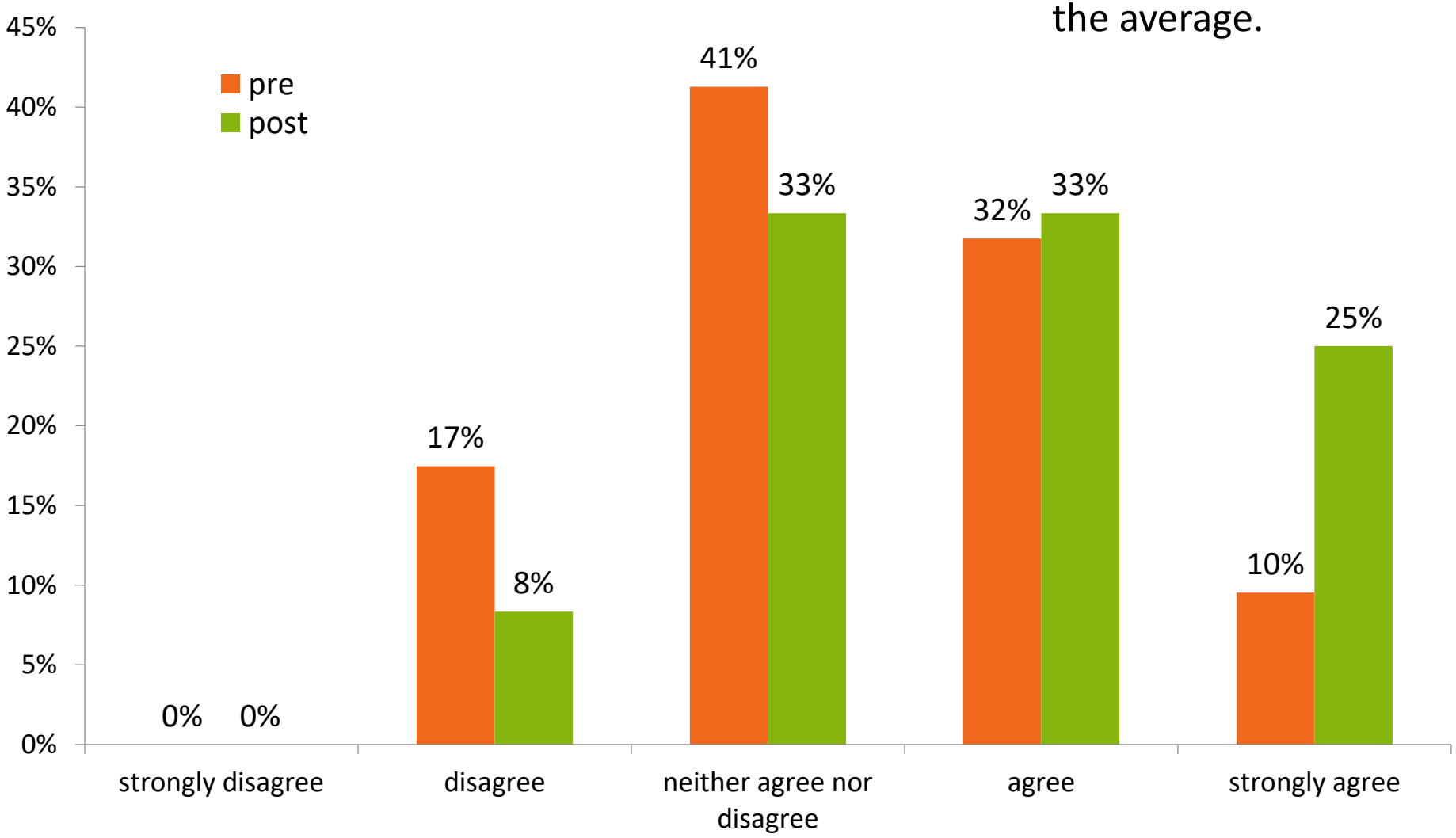
Results – Technosis

Dealing with technology I am afraid
- to do something wrong.
- to break something.



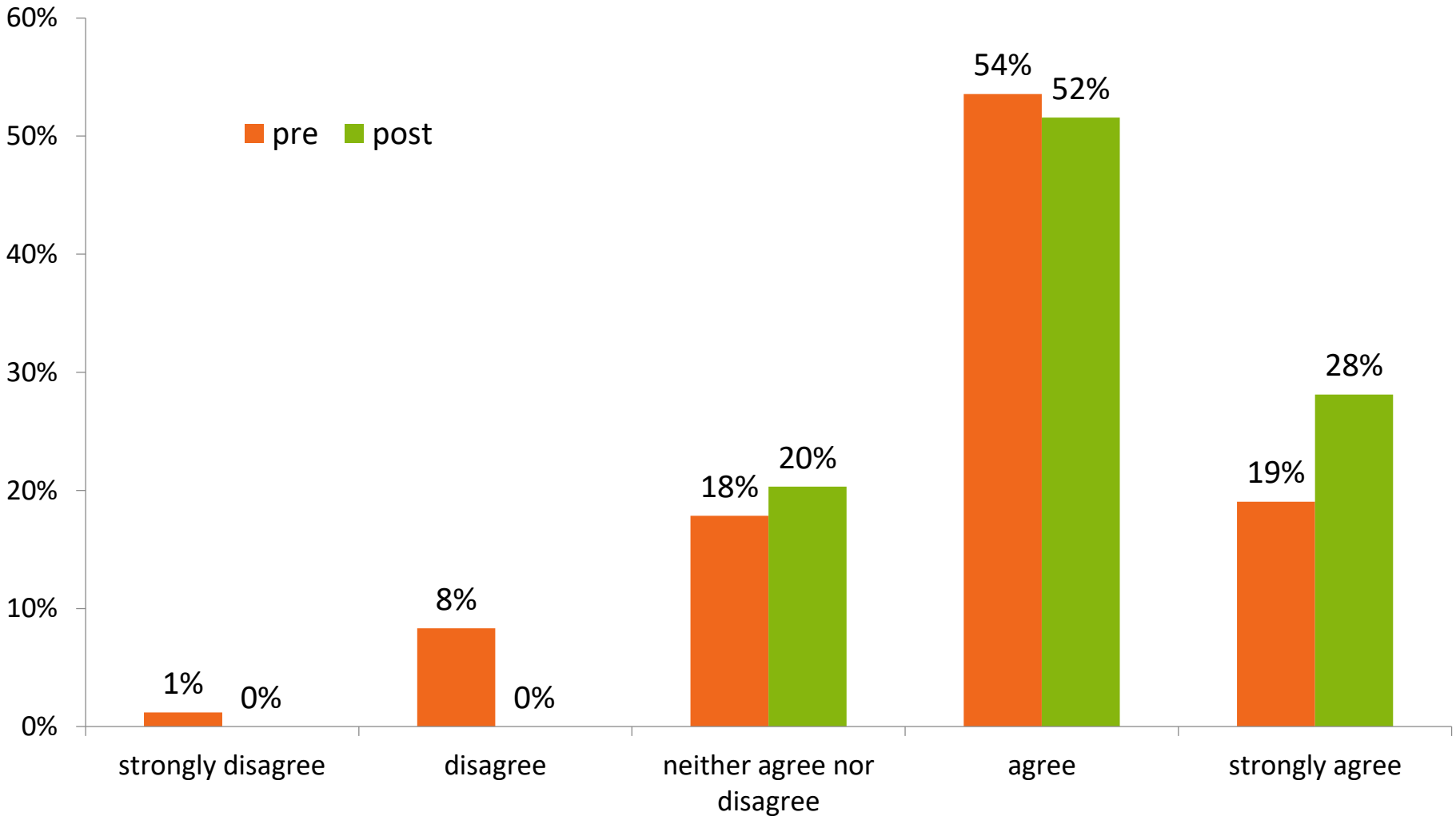
Results – Competence

- I consider myself very competent in dealing with technical devices.
- When working with technology, I am safer than the average.

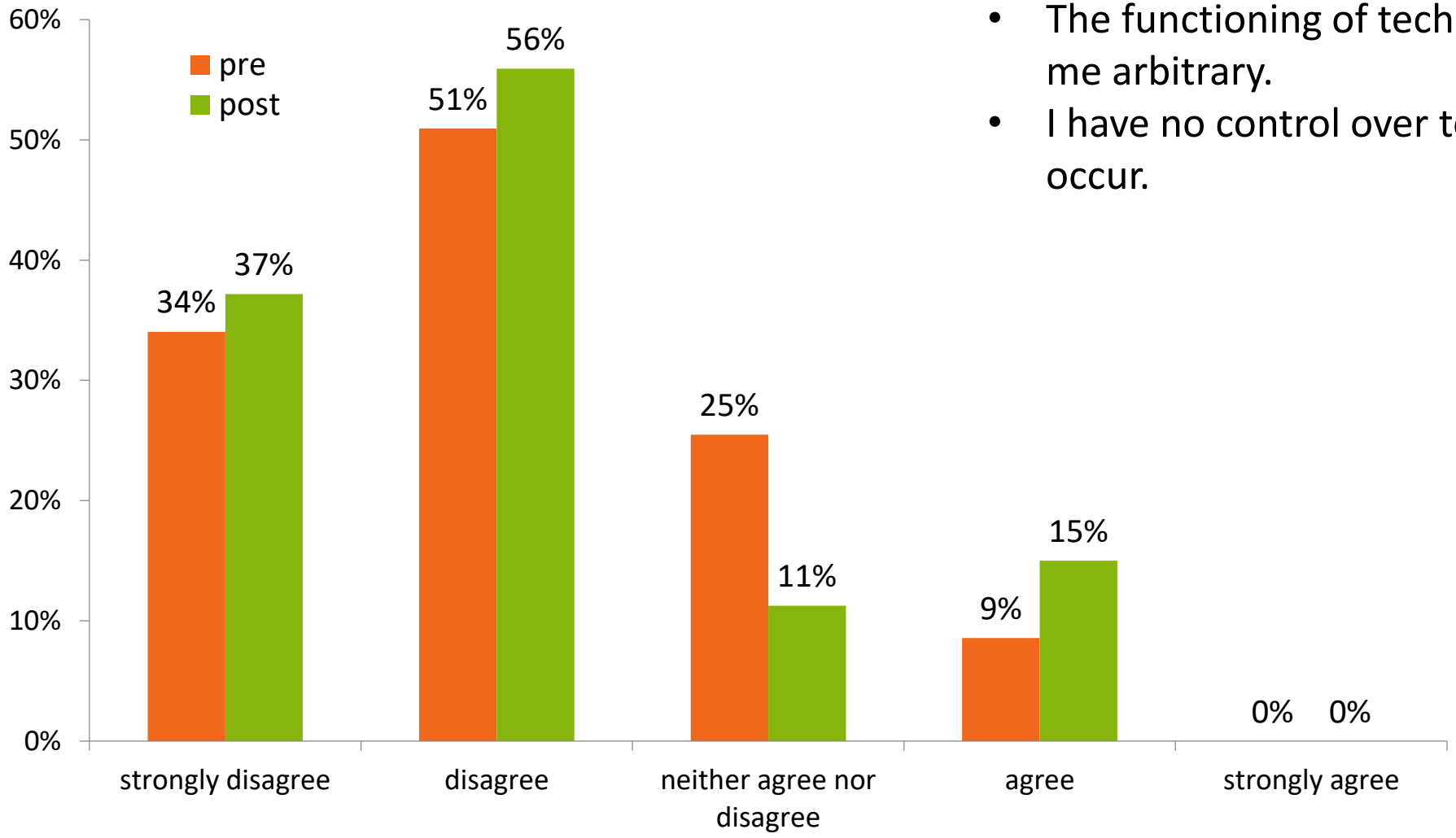


Results – Self-efficacy

- I am able to cope with technology requirements.
- I see technical difficulties calmly.
- When I am confronted with technical problems, I find ways to solve them.



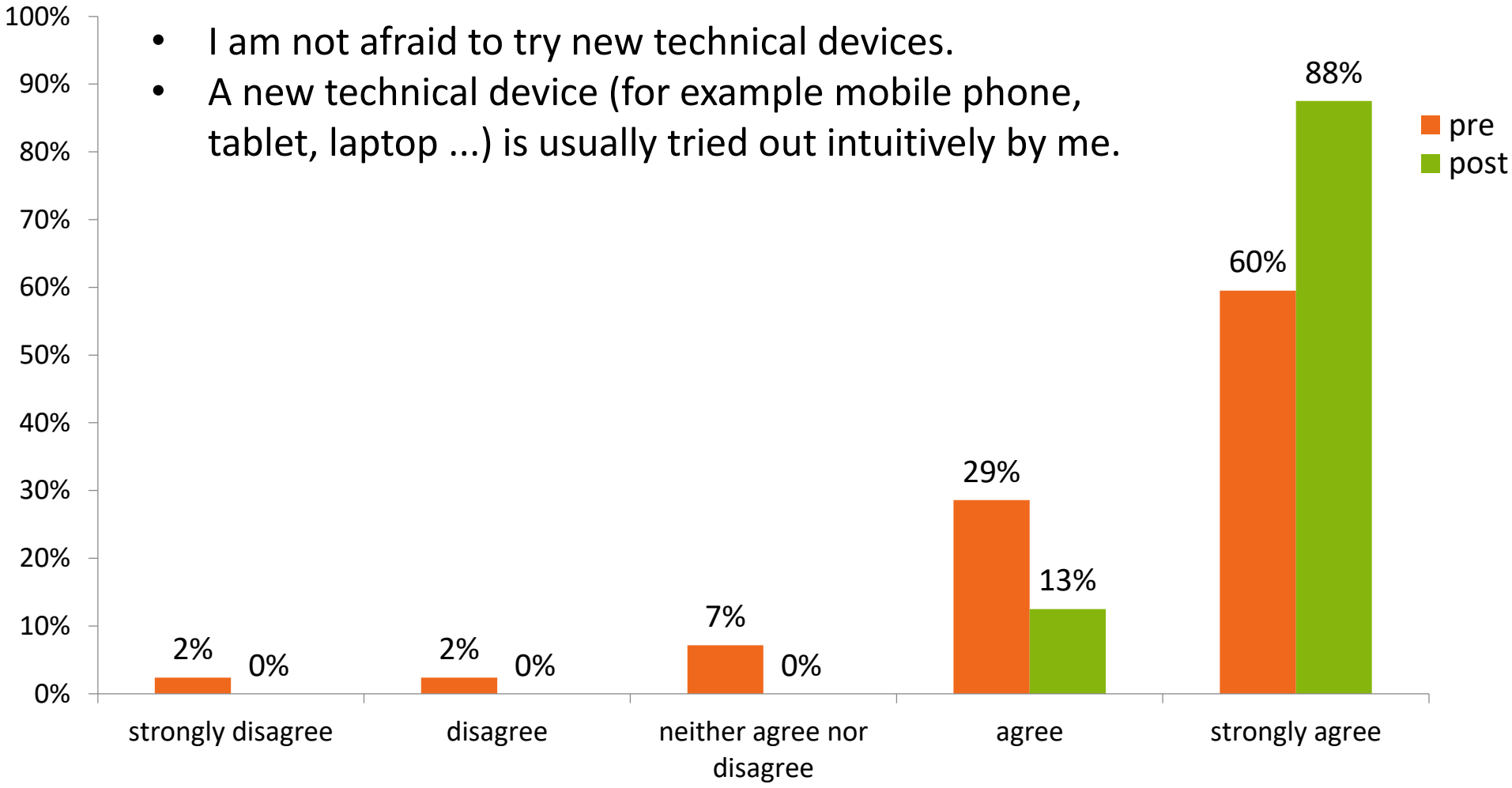
Results – Attribution External



- The functioning of technology often seems to me arbitrary.
- I have no control over technical problems that occur.

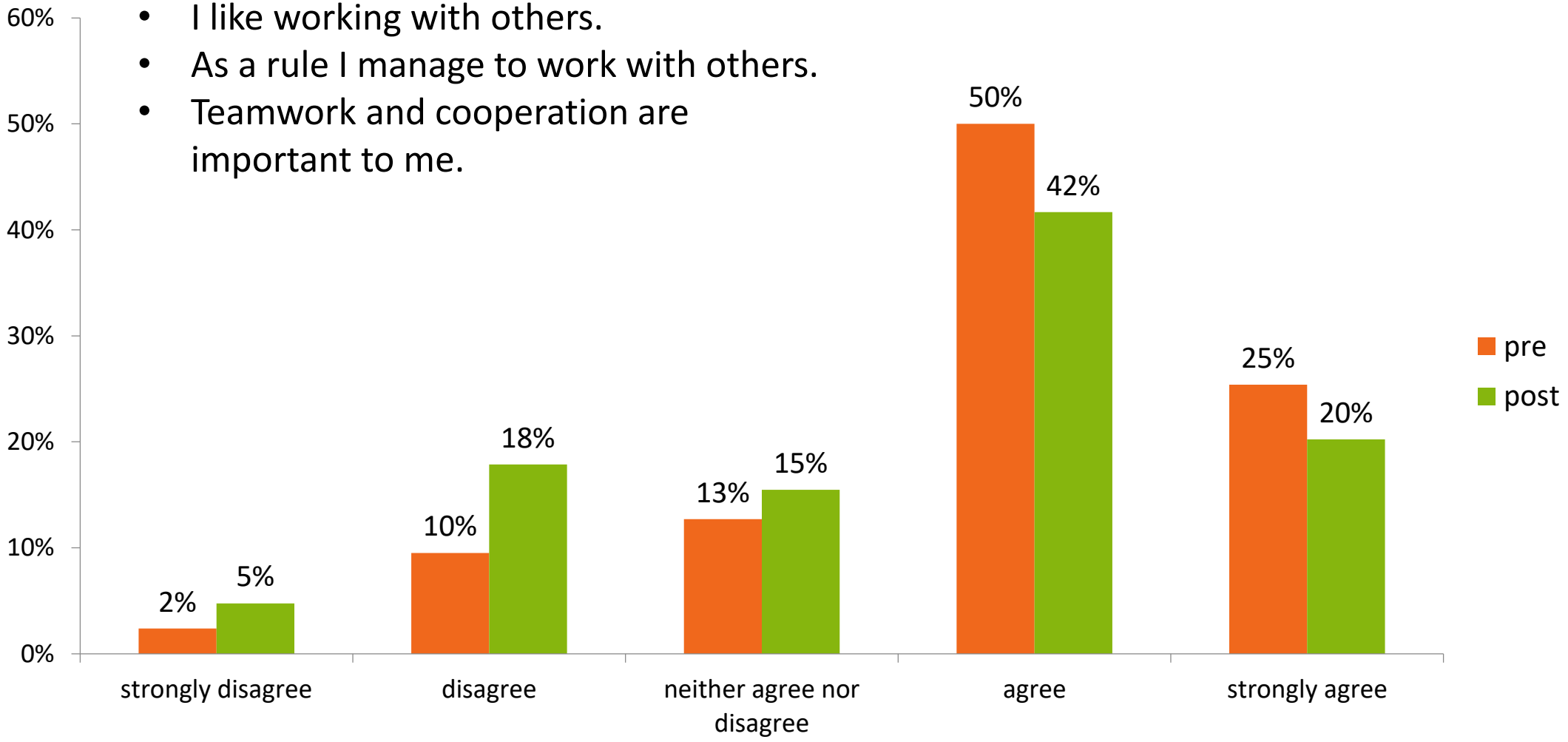
Results – Intuitive Approach

- I am not afraid to try new technical devices.
- A new technical device (for example mobile phone, tablet, laptop ...) is usually tried out intuitively by me.



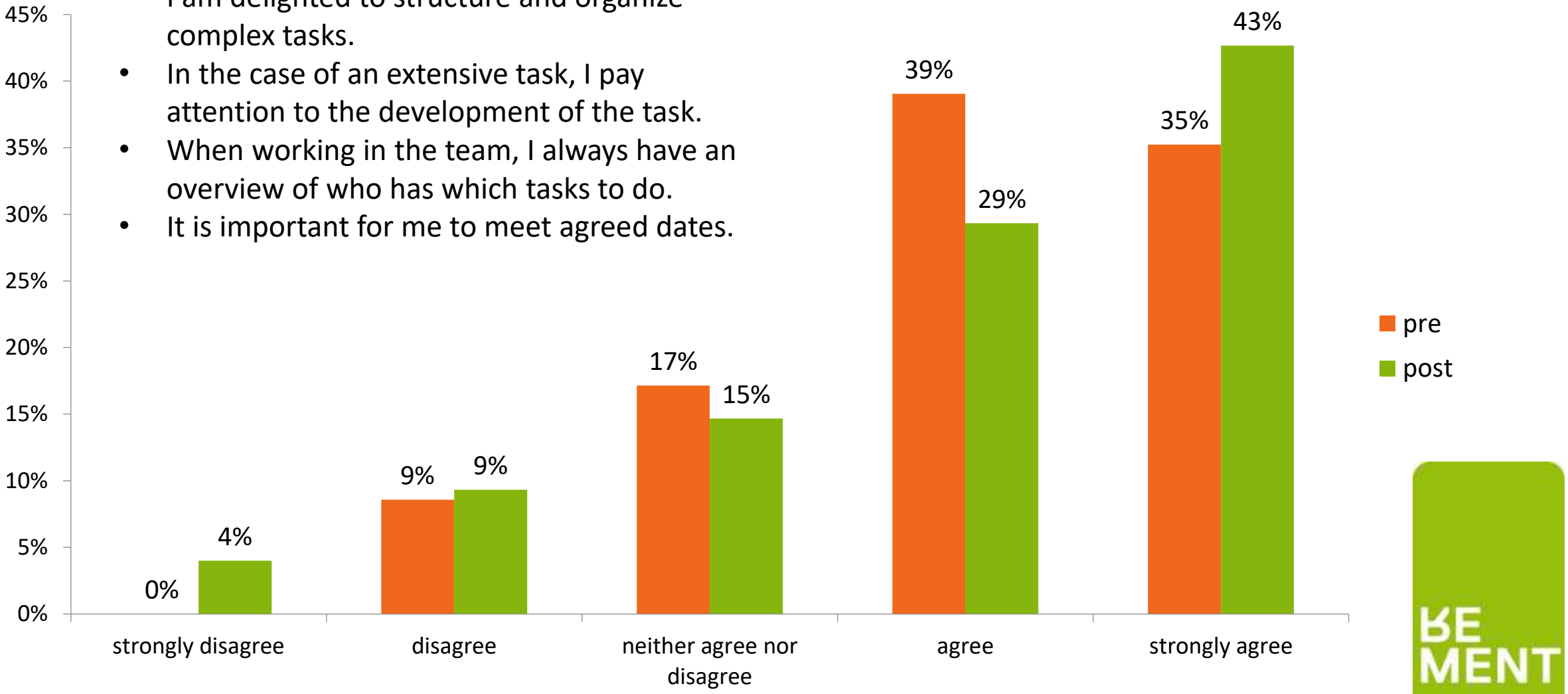
Results – Ability to work in Teams

- I like working with others.
- As a rule I manage to work with others.
- Teamwork and cooperation are important to me.



Results – Coordination Skills

- I am delighted to structure and organize complex tasks.
- In the case of an extensive task, I pay attention to the development of the task.
- When working in the team, I always have an overview of who has which tasks to do.
- It is important for me to meet agreed dates.



Participative Workshop

- Girls made pictures
  - Project period (begin to end)
  - Experience

Interpretation of Visual Material

Three Approaches (Przyborski & Wohlrab-Sahr 2010)

- Planimetric composition
  - Working with lines
  - Looking for borders
  - Demonstrate the structure of the picture
- Scenic choreography
  - Proportion of different picture elements
  - Analysis of each element
    - Importance of every element
    - Possibility to cross out one element
- Comparative analysis

Results

- Requirements for mentoring
  - Respect
  - Mutual understanding
  - Motivation
  - Joy
- Mentor gains individual experience
  - Tree of life is growing
- Development of personality
  - Spring – river – ocean
  - Ocean = mentors' knowledge
  - Mentee satisfies his/her thirst of knowledge

Summary

- Reverse-Mentoring fosters the increase of the girls' technological self-concept.
- Reverse-Mentoring contributes to change the perception of the own concept of social competence.
- Reverse-Mentoring has an effect on the mentors and mentees.
  - Social component
  - ICT

Sustainability

- Master Programme: Student's future career choices
  - Online
  - Closing conference
- Master Programme: Mentoring
  - Face-to-face
- Seminar
  - For teachers, students and everyone teaching at our University College
  - Starts in October 2017
  - Face-to-face and online
- Open Access Online Course
  - E-learning platform (Moodle) provided by our University College

www.re-ment.at

Re-ment is a project of MOVES-Zentrum für Gender und Diversität (www.moves.cc) and the University College of Teacher Education in Lower Austria (www.phnoe.ac.at) and was subsidised by the Austrian government (bm_vit im Rahmen der 4. Ausschreibung Talente/FEMtech)

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