Research-based teaching in theory and in practice - A theoretical point of view and how it works at the University in Helsinki

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One definition of research-based teaching

- to start with

- “Research-based teaching characterises teaching methods that try to bridge the gap between teaching and research by engaging students in research and research-like activities.
- The term research-based teaching originates from analyses of the relation between teaching and research in university curricula.”
- (Goedhart, Finlayson & Lindblom-Ylänne, 2009)

The research-teaching nexus is seen in a positive light

(Elen, Lindblom-Ylänne, Clement, 2007)

- Positive relationship between active research involvement and teaching
- Research has a higher status than teaching
  - Teaching is not unimportant, but different
- Active research participation is the optimal teaching approach
  - Students participate in the knowledge development process
  - Enquiry learning favoured

Research-teaching nexus (cont.)

- Teaching is especially valued when it is instrumental to research
  - Getting challenged in teaching
    - e.g., by students' questions or by recruiting students for own projects
- Positive effect of having researchers involved in educational activities
  - Researchers bring knowledge alive
  - They demonstrate that knowledge is continuously challenged and changing

Unfortunately, one definition or one concept is not enough

Many concepts are applied when referring to research-based activities

(Healey, 2005)

Research-led curriculum

- Students learn about research findings
- The curriculum content is dominated by staff research interests
- Information transmission is the main approach to teaching

Research-oriented curriculum

- Students learn about research processes
- The curriculum emphasises both the process of knowledge creation and the learning process

Research-based curriculum

- Students learn as researchers through inquiry-based activities
- The division of roles between teacher and student is minimised

Evidence-based teaching

- The use of a teaching method or practice is based on evidence, not only on experience
- First applied in the context of medicine
  - The aim is to apply the best available evidence gained from the scientific method to clinical decision making
- Now applied broadly in higher education
  - For example, evidence-based educational development

Research-based teaching as a strategic aim of a university

Three examples

Research-informed teaching

Example from Queen's University Belfast

Students learning about others' research	Staff use their own research and that of others in the discipline to illustrate ideas, concepts, and theories or to provide examples.
Students learning to do research	Opportunities for students to learn about how to undertake research within their discipline. This learning may or may not take place within 'research methods' modules.
Students learning in research mode	Students develop knowledge and researcher skills by learning in 'enquiry' mode, rather than being the recipients of teacher-processed knowledge.
Staff involved in pedagogic research	Staff inform their teaching practice through practitioner research and reflective practice or make use of the learning and teaching research of others.

Research-enriched teaching and learning curriculum

Example from the University of Sydney

1. New knowledge and research findings in the discipline are included in the curriculum content (research-led)
2. Including research relevant learning outcomes in curriculum design
   - Students are learning about how to do research in their discipline (research-oriented)
3. Students are learning in research-like ways (research-based)
4. Creating a research enriched learning community for students and staff
   - Providing opportunities for meaningful and motivating engagement and participation

Research-based teaching

Example from the Helsinki University

- Teaching and assessment practices are based on pedagogical research
  - Discipline-specific pedagogical research is important
- Teaching derives from strong research base in own discipline
  - Teaching content is strongly related to own research areas
- Students as researchers

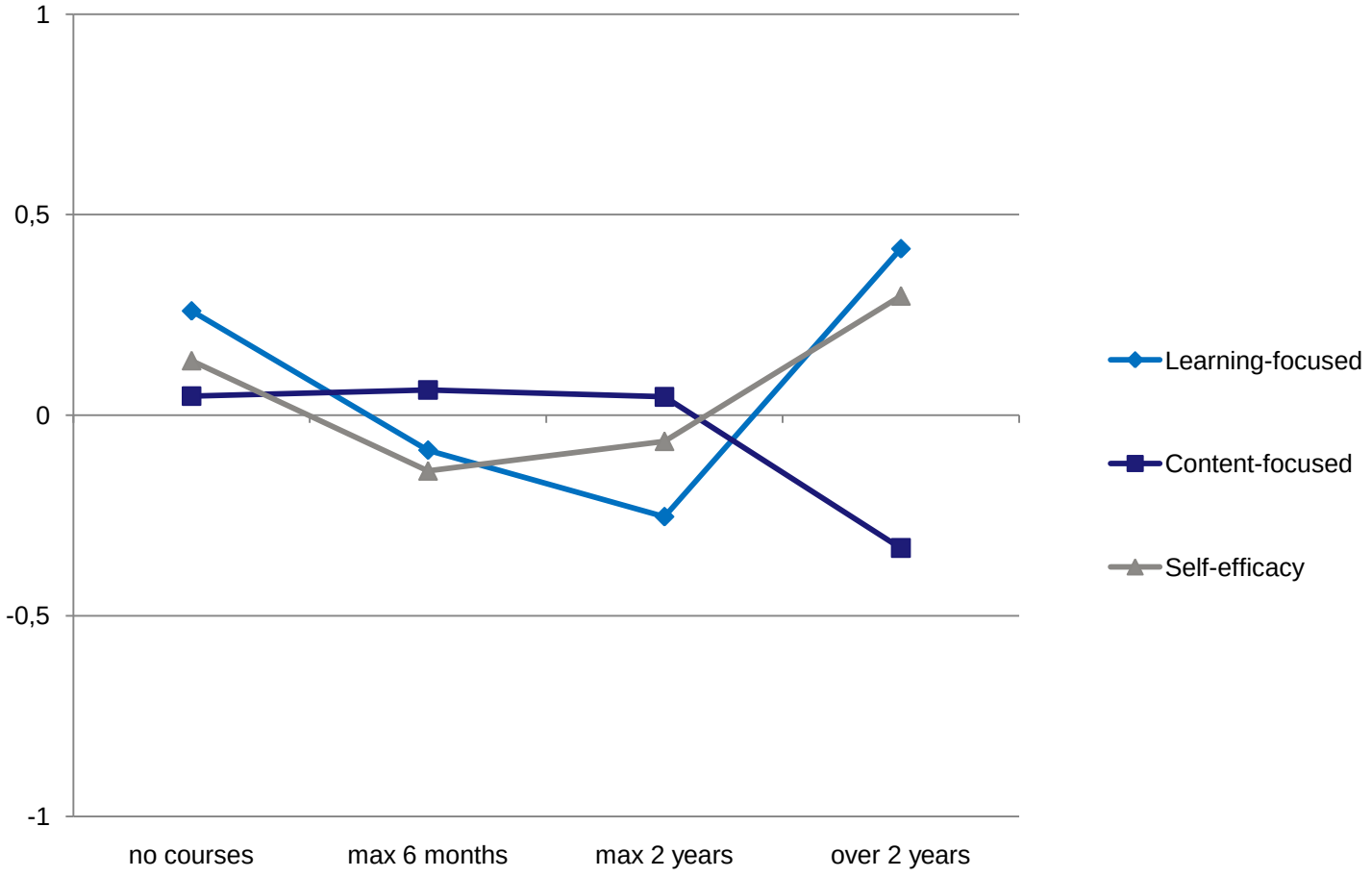
How it works at the University of Helsinki

Three examples

The effect of pedagogical training on teachers' teaching

The unique effect of pedagogical training on approaches to teaching and on self-efficacy beliefs

(Postareff, Lindblom-Ylänne & Nevgi, 2007)



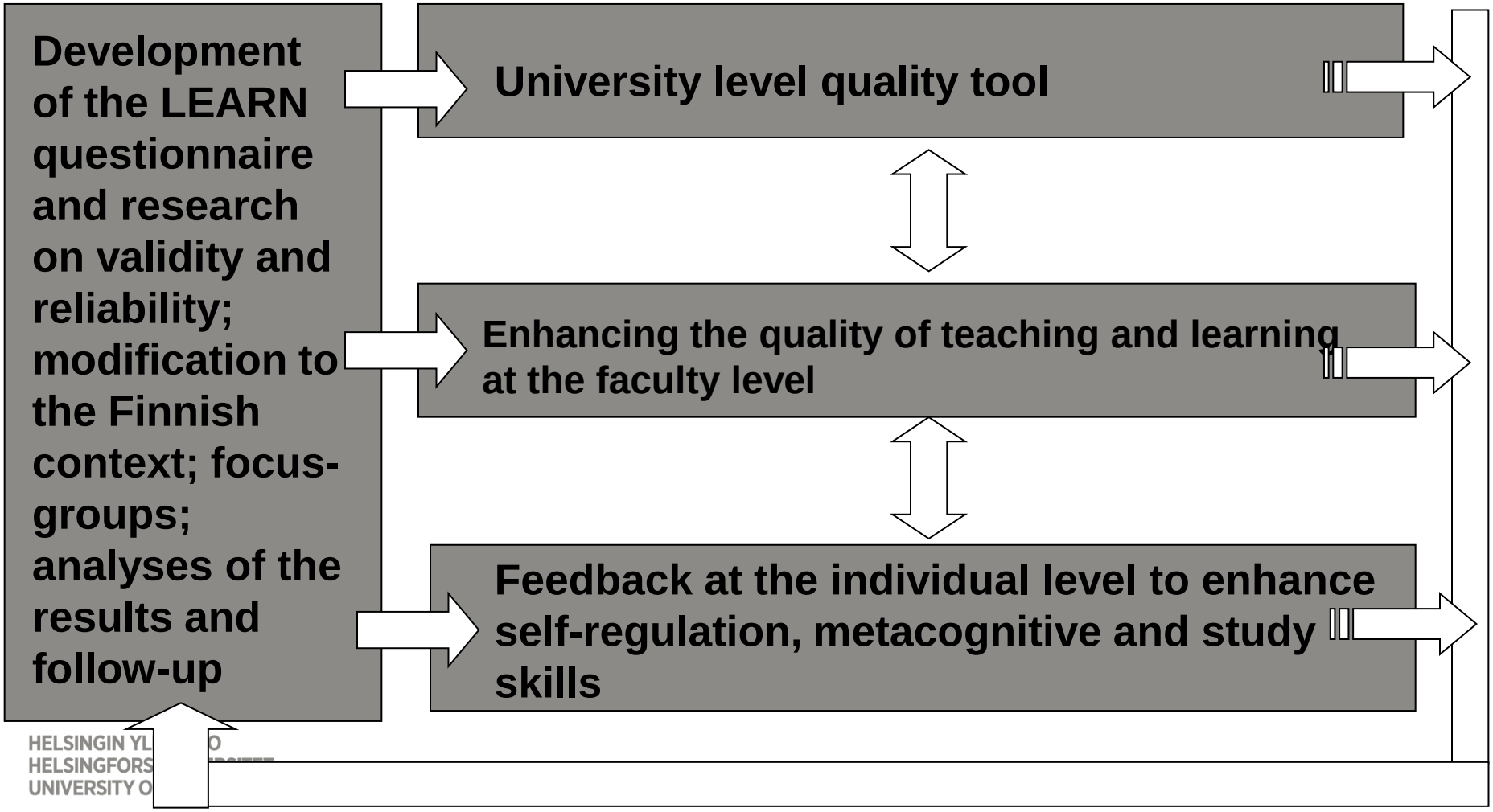
Using a research instrument to develop quality at the university

LEARN-questionnaire as a research-based quality tool

e.g., Parpala, Lindblom-Ylänne, Komulainen & Entwistle (in press)

- A research-based feedback system based on students' perception of academic quality
- Includes:
  - Approaches to learning (what students aim at and what processes they apply to reach the aims)
  - Experiences of the teaching-learning environment
  - Factors that enhance and impede learning
  - Experiences of stress and workload
  - Generic skills and transition to the working life

Implementing LEARN in practice



First-year students as researchers

Orientation to research work in education –course

(e.g., Pehkonen & Lahtinen, 2008)

- To learn about
  - research areas in the field of educational sciences
  - key concepts of academic research
  - how to construct research questions
  - how to work in a heterogeneous group
- Each student group is given “one real researcher” and his or her research article
- During the course students study the article from different points of view and meet the researcher several times
  - E.g., topic of research, research questions, research methods, theoretical framework, critical evaluation

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