



The interaction between teaching and learning in higher education

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Outline of my presentation

- Teachers' approaches to teaching in higher education
- Students' approaches to learning in higher education
 - Variability / stability?
- The complex relationship between student learning and the teaching-learning environment



Research on teaching and learning in higher education

- University teachers' teaching in higher education has mainly been explored from the perspective of *teachers' approaches to teaching*
- Respectively, student learning has been explored from the perspective of *students' approaches to learning*
- However, there is very little evidence of how approaches to teaching affect students' approaches to learning
 - Trigwell, Prosser & Waterhouse (1999) showed that in courses where teacher adopts a student-focused approach to teaching, the students are more likely to adopt a deep approach to learning than in courses where teacher adopts a teacher-focused approach



Approaches to teaching

(Postareff & Lindblom-Ylänne, 2008)

- **Content-focused approach to teaching**
 - entitled also teacher-centred, content-centred
 - primary focus is on transmission of knowledge
 - repeating traditional and familiar ways of teaching
- **Learning-focused approach to teaching**
 - entitled also student-centred, student-focused
 - purpose of teaching is to improve students' learning
 - an emphasis on continuous improvement of own teaching

LEARNING-FOCUSED

flexible

contextual

understanding

TEACHING PROSESS

Planning of teaching

Teaching practices

Assessment practices

CONTENT-FOCUSED

precise

not contextual

knowledge

facilitator

active

enhances learning

enhances learning

understanding

LEARNING ENVIRONMENT

Teacher's role

Student's role

Interaction

Creating a good
athmosphere

expert

passive

not crucial

teacher is responsible

CONCEPTION OF LEARNING

remembering



Profiles of university teachers

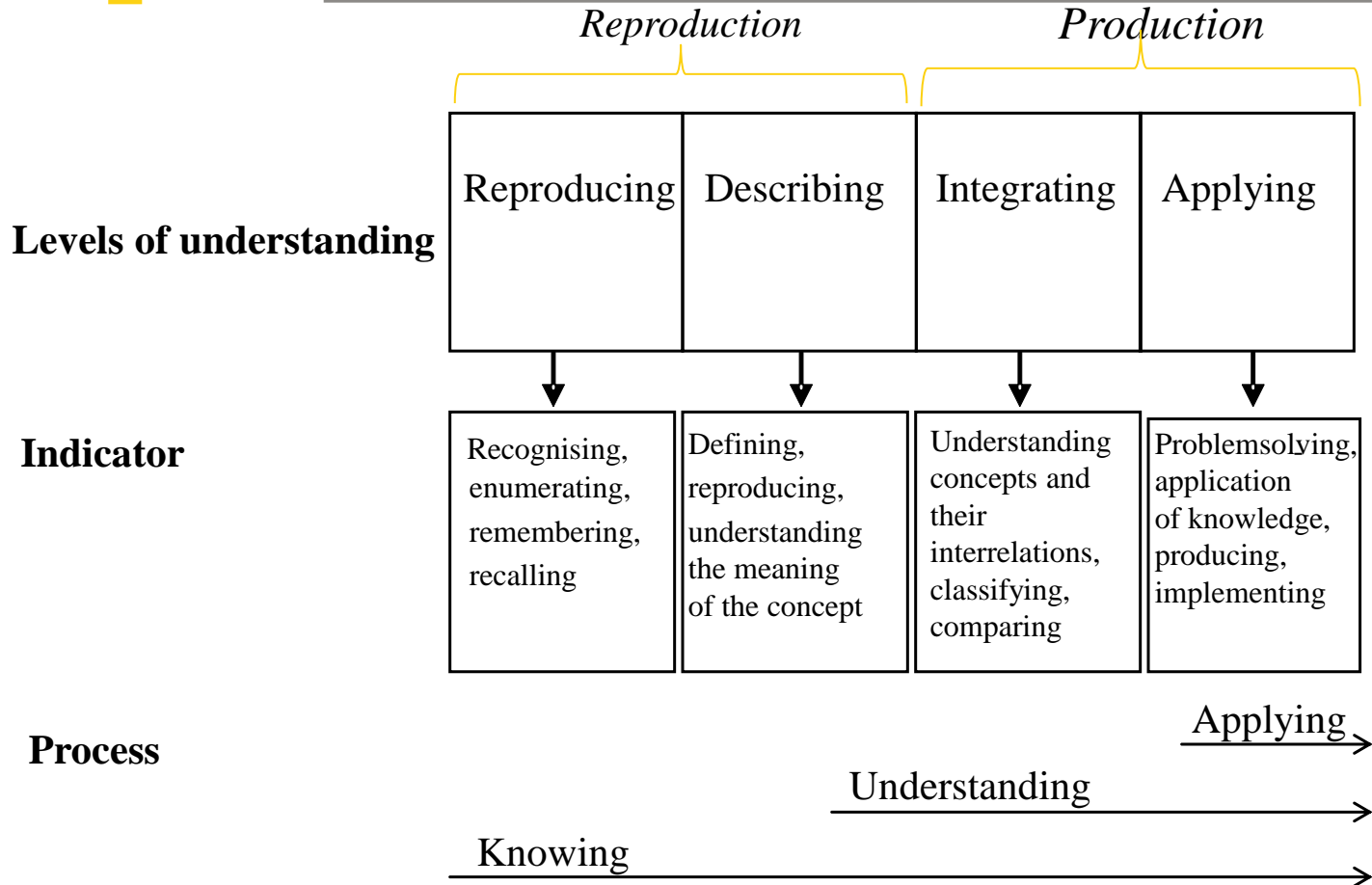
(N=97) (Postareff, Katajavuori, Lindblom-Ylänne & Trigwell, 2008)

Consonant content-focused profiles	Dissonant profiles	Towards learning-focused profiles		Consonant learning-focused profiles	
Systematically content-focused profiles (<i>n</i> = 6)	Systematically dissonant profiles (<i>n</i> = 29)	Contextually varying profiles (<i>n</i> = 10)	Developing profiles (<i>n</i> = 12)	Systematically learning-focused profiles (<i>n</i> = 19)	Reflectively learning-focused profiles (<i>n</i> = 21)



A model of knowledge and understanding

(Hailikari, 2010)



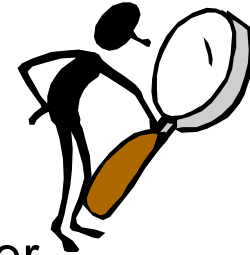


Three approaches

(e.g., Entwistle; Ramsden; Marton; Biggs)

- **Deep approach**

- Intention to maximise understanding
- Relating information
- Based on interest in the subject matter



- **Surface approach**

- Intention to cope with the course requirements
- Routine fact memorisation
- Related to an experience of high workload



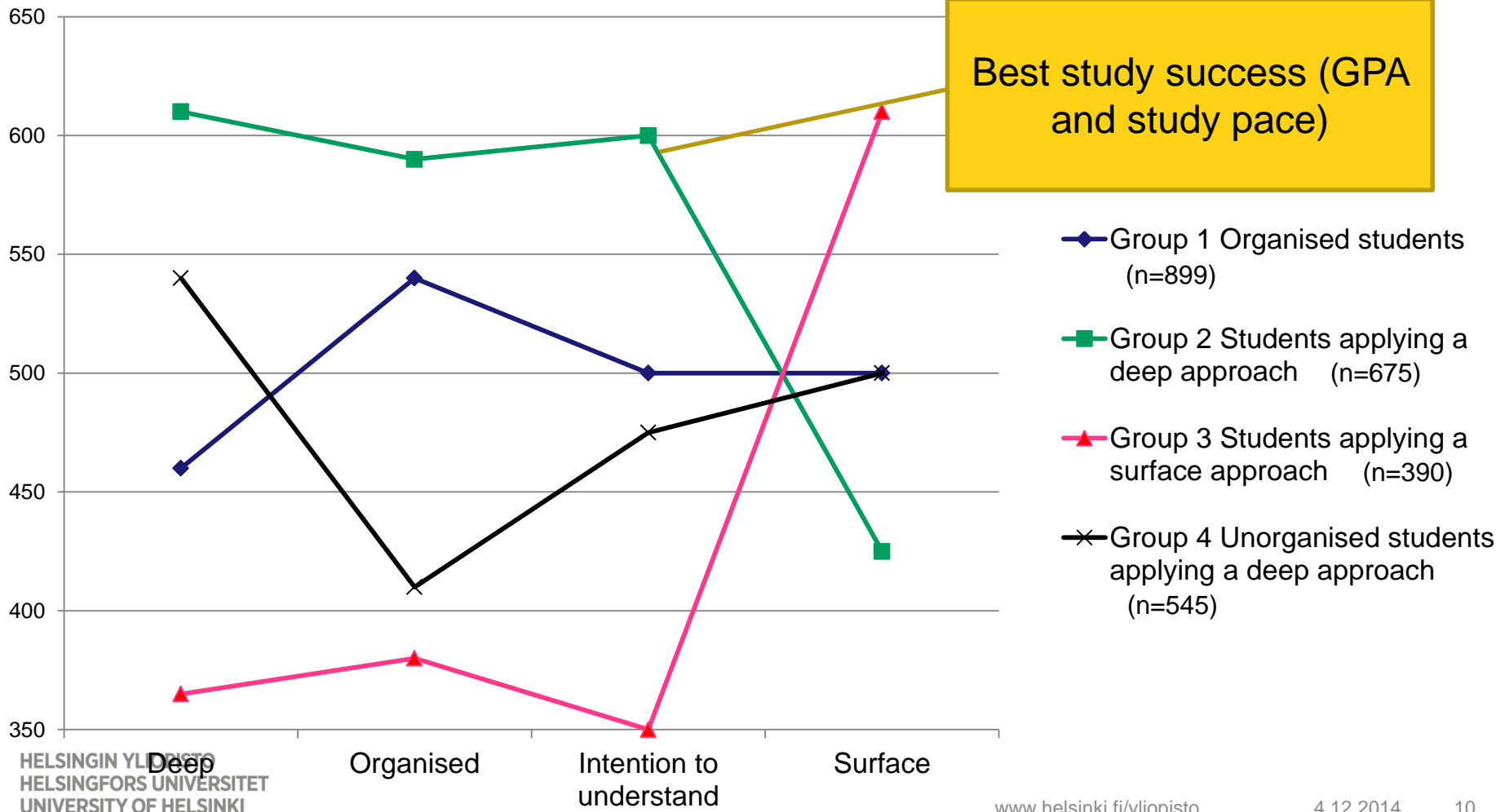
- **Organised studying**

- Strategic approach
- Intention to succeed well
- Time and effort management





Student profiles (clusters) (N=2509) (Parpala et al., 2010)





Correlations between approaches to learning and experiences of the teaching-learning environment scales

(N=2509, $p < 0.000$) (Parpala et al., 2010)

Scales	Teaching for understanding	Alignment	Staff enthusiasm and support	Interest and relevance	Construct. feedback	Support from other students
Deep approach	.37	.23	.29	.34	.27	.15
Organised studying	.23	.30	.24	.42	.24	.20
Surface approach	-.33	-.38	-.30	-.38	-.16	-.15



Stability of approaches to learning?

- Contradictory evidence:
 - Approaches are context-specific and evolve over time (e.g. Nieminen et al. 2004; Nijhuis et al. 2008; Struyven et al. 2006; Vermetten et al. 2002)
 - Approaches are rather stable characteristics (e.g. Lietz & Matthews 2009; Zeegers 2001)
- If approaches to learning are considered to be stable characteristics, teaching or other factors in the learning environment should not have an effect on them



Is there variation in approaches to learning? $\frac{1}{2}$

(Lindblom-Ylänne, Parpala & Postareff, 2013)

Course	At the beginning of a course M (StD)	At the end of a course M (StD)
Bioscience course (n=78)	3.46 (0.63)	3.31 (0.64)
Educational science course (n=60)	3.45 (0.75)	3.24 (0.76)
Mathematics course (n=99)	3.42 (0.69)	3.07 (0.83)*
Theology course (n=82)	3.66 (0.70)	3.48 (0.69)



Is there variation in approaches to learning? 1/2

- Variation in *deep approach to learning* at individual level within one course (change variables): (Lindblom-Ylänne, Parpala & Postareff, 2013)
 - No change: 97 students (46%)
 - Increase in the deep approach: 40 students(19%)
 - Decrease in the deep approach: 75 students (35%)
- Students' general study orientations significantly predict the course-specific approaches they adopt in different courses, but still approaches differ between courses (Postareff, Vanthournout, Coertjens & Lindblom-Ylänne, 2014)
 - Quality of teaching → negative influence on surface approach
 - Interest → positive influence on organised studying
 - Peer support → positive on both deep approach and organised studying



→ Approaches might be dynamic or stable

(Lindblom-Ylänne et al., 2013; Postareff et al., 2014; Postareff, Parpala & Lindblom-Ylänne, in press; Postareff, Lindblom-Ylänne & Parpala, 2014)

- Most students' approaches vary within one course and between different courses, but changes occur in diverse directions (even in the same environment)
 - Sensitiveness to the effects of the teaching-learning environment
- Some students' approaches are more stable and they are immune to the effects of the teaching-learning environment
 - Especially, there is a group of students with extremely high scores on deep approach in different contexts



An example of an 'immune student'

"I have a certain system, which I always follow: a rule of three. First I listen in lectures, then I go through the notes at home and I don't go to the next topic before I have understood it. Then I read the materials again before the exam. When I understand, I remember better. It is not memorising [...] This course was a pleasant experience. I participated in almost all lectures and really went through the contents at home. In addition to the teacher's material, I made own notes, not everything, but the interesting ones. In this way I remember them better".

(Male student, Faculty of Bio- and Environmental Sciences)



Disposition to understand for

oneself (Entwistle & McCune, 2013; 2009; McCune & Entwistle, 2011; Postareff et al., 2014)

- A minority of students' show a 'disposition to understand for oneself':
 1. Well-developed use of learning strategies
 2. Willingness to devote necessary time, effort and concentration to apply learning strategies effectively
 3. Alertness to the learning context



Factors supporting the deep approach and inhibiting surface approach

(Postareff, Parpala & Lindblom-Ylänne, in press; Postareff, Lindblom-Ylänne & Parpala, 2014; Postareff, Vanthournout, Coertjens & Lindblom-Ylänne, 2014)

- **Individual factors:**
 - Good study skills (awareness of own study practices)
 - Good self-regulation skills
 - Systematic studying
 - Effective use of time, investing time and effort into studying
- **Environmental factors:**
 - Quality of teaching
 - Interest and relevance of what is being studied
 - Peer support
 - Providing enough challenges



Conclusions

- Interaction between the learner and his or her teaching-learning environment is complex
- At the group level approaches to learning seem more stable
- At the individual level more contextual variation
- Study processes are individual and different factors affect students' study processes and learning
 - Some students are more vulnerable to the effects of the TLE while others are rather immune
 - Individual factors are strongly related to approaches to learning



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