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Impact and Effect of Social MicroLearning



Outline

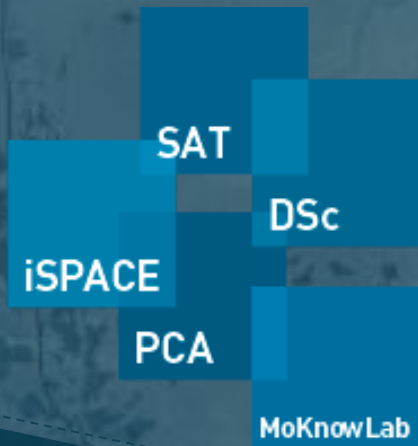
1. Introduction: From MicroLearning to Social MicroLearning
2. Findings: Effect of Social MicroLearning
3. Conclusion: Impact of Social MicroLearning

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Introduction

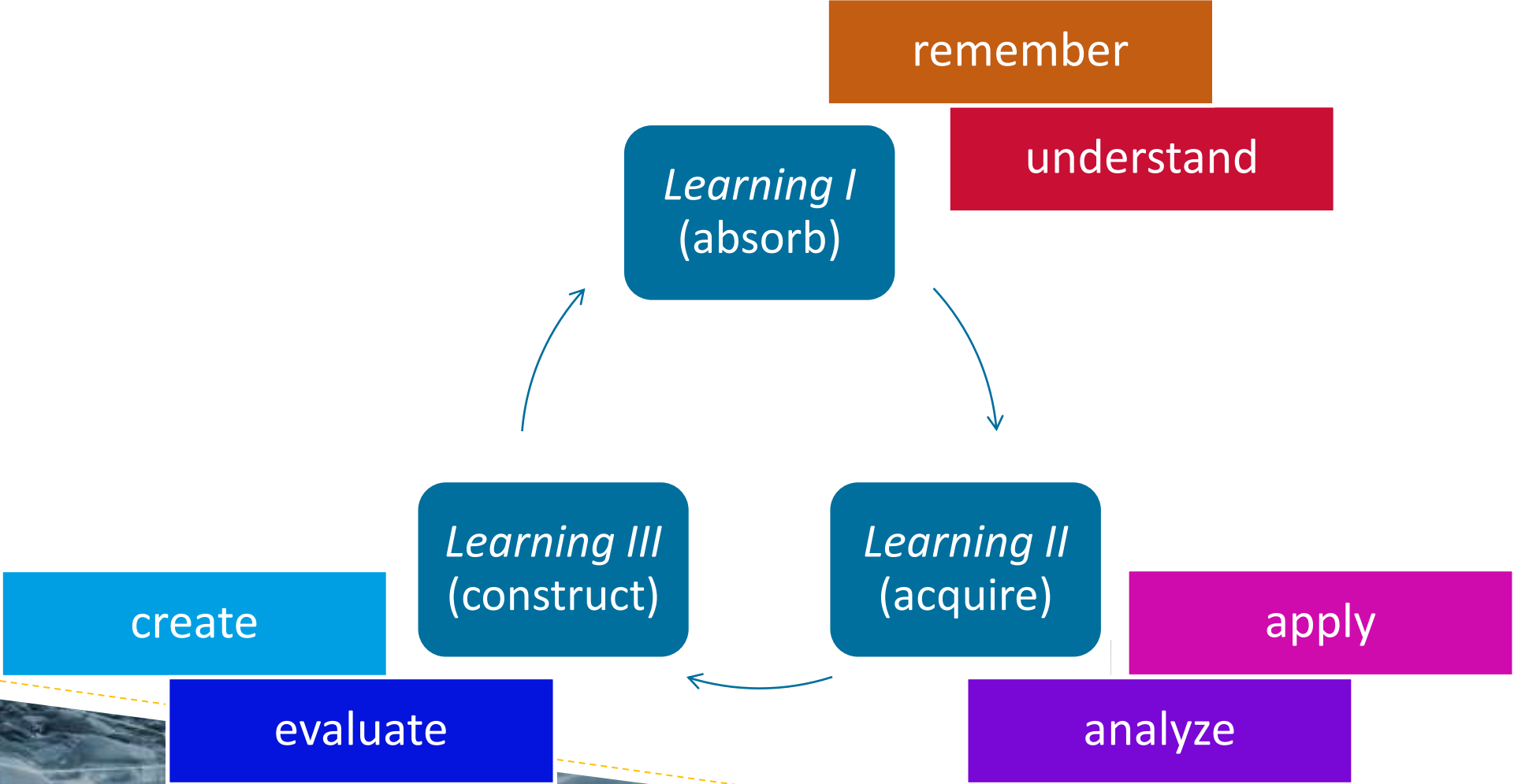
From MicroLearning to Social MicroLearning



What is MicroLearning?

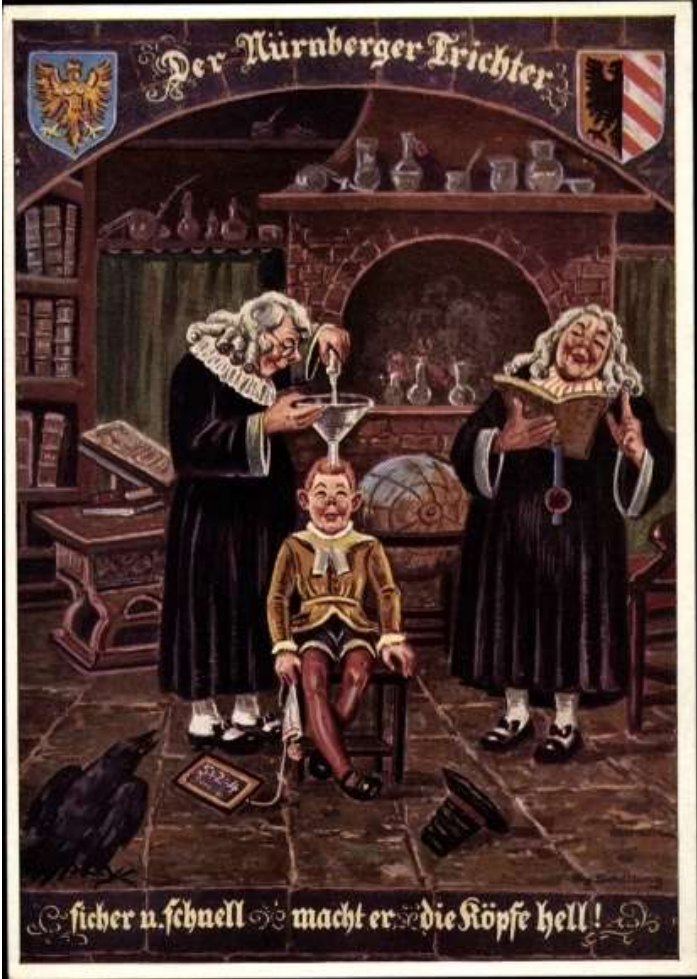
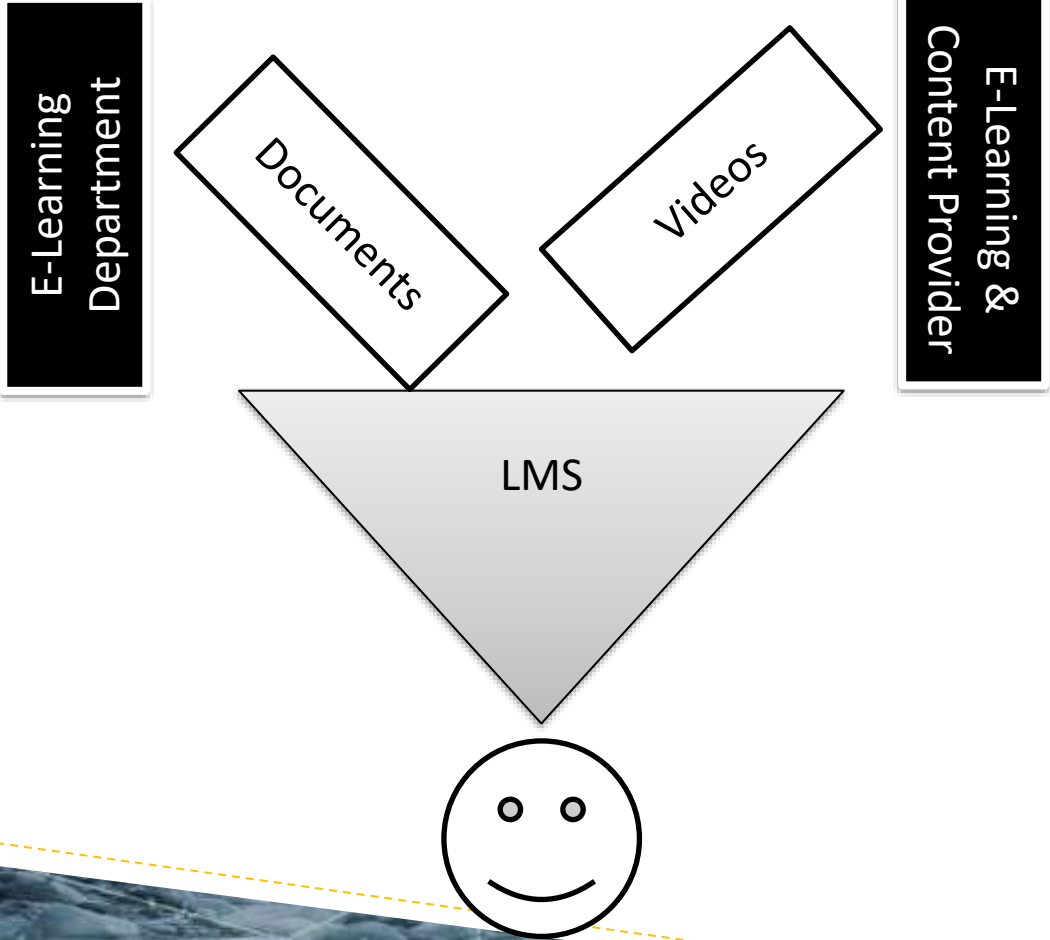
- MicroLearning:
 - Learning in small steps
 - Often integrated (workplace, daily routines)
 - Sometimes just-in-time
- MicroLearning activities:
 - Minimal independent feedback loops
- MicroContent:
 - Self-contained, self-explaining, no additional context needed
 - Single activity can be performed within seconds
 - Immediate performance feedback

Spiral of competence development & Blooms Taxonomy



(Baumgartner 2013, Anderson et al. 2001, Göschlberger 2017)

Many people think of „Learning I“ when they think of learning

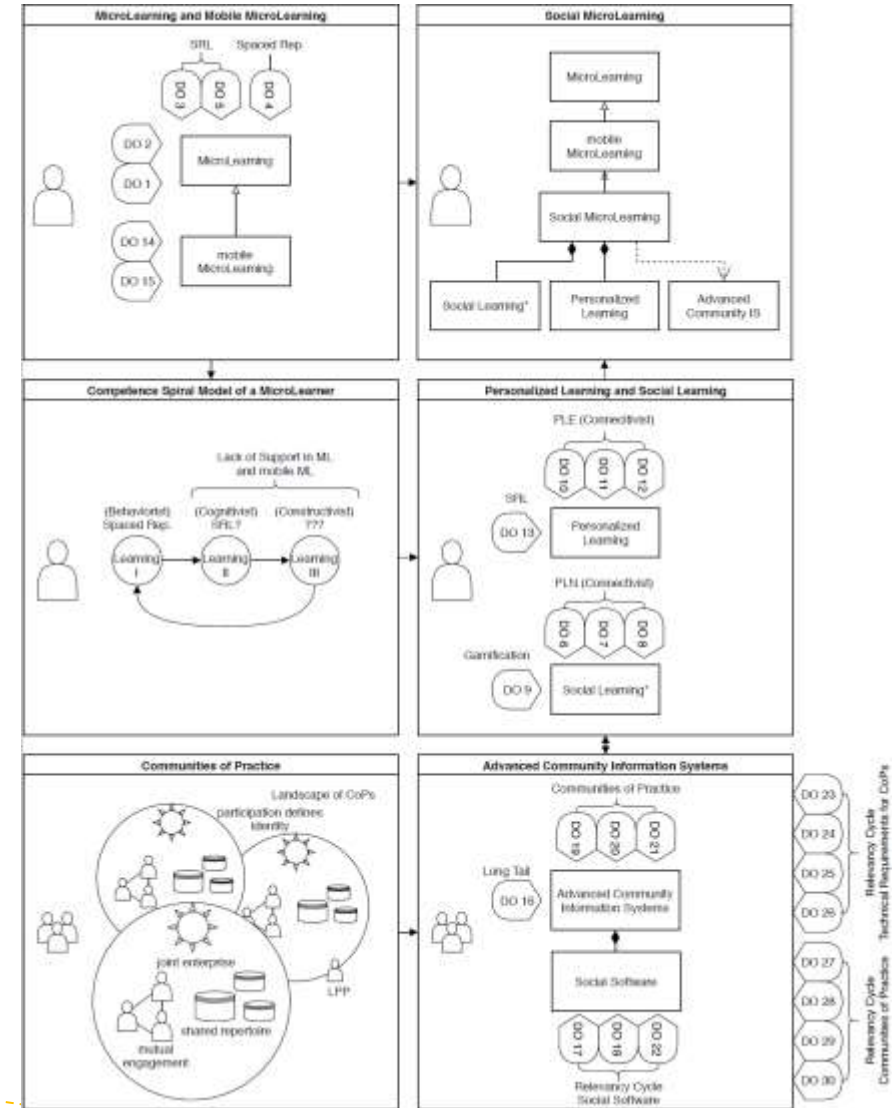


What is Social MicroLearning?

- Social MicroLearning is a concept for a class of information systems that supports a social, informal learning process in the tradition of MicroLearning.
- Our contributions, in terms of what Social MicroLearning is, are
 - a set of actionable design principles and design objectives for information systems,
 - empirical evidence supporting the underlying learner model and its impact on student performance, and
 - novel insight into the capabilities of learners to model domain knowledge as a community of practice

Design objectives for a Social MicroLearning System

1. Design for MicroLearning
2. Design for Long Term Retention
3. Design for Social Context and Social Learning
4. Design for Personalized Learning
5. Design for Ubiquitous Learning
6. Design for Creation of Diverse and Flexible Knowledge Artifacts
7. Design for Shareability
8. Design for Emergent Shared Understanding
9. Design for Scalability and Congurability
10. Design for Community Structures and Community Evolution
11. Design for Knowledge Management
12. Design for Compliance
13. Design for Acceptance



Findings

Effect of Social MicroLearning



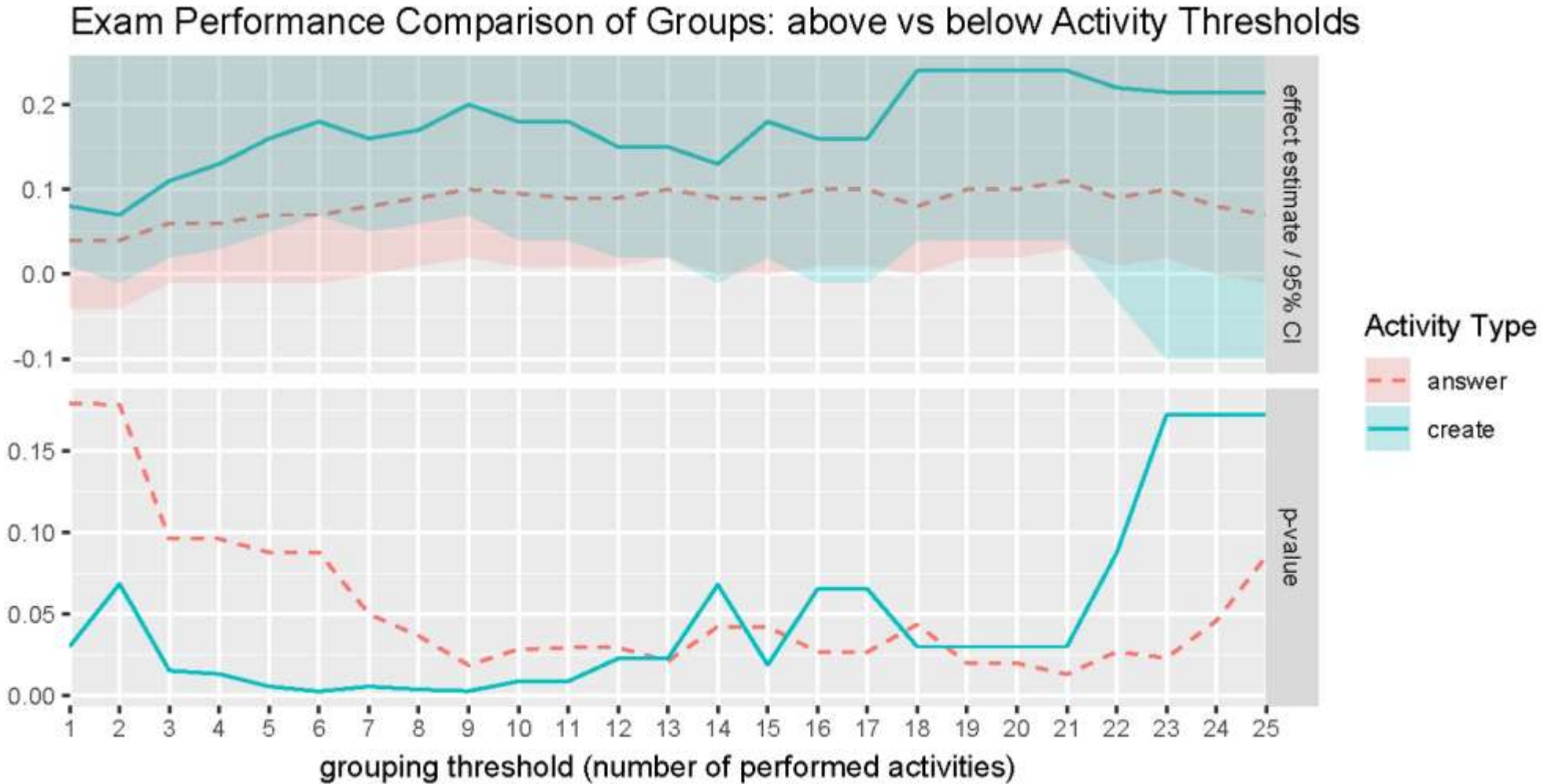
Lecture Supplement Study 2018

- Multimedia Lecture (second semester bachelor in computer science)
 - 294 distinct Learning Objectives
 - E.g.: o201: “A student shall be able to describe a H.261 Multiplexencoder“
- 150 Students enrolled (>75% male, >75% Austrian, age ~20)
 - 97 used our software at least once
 - 418 micro-content units created (including revisions)
 - 6142 submitted answers on micro-content units

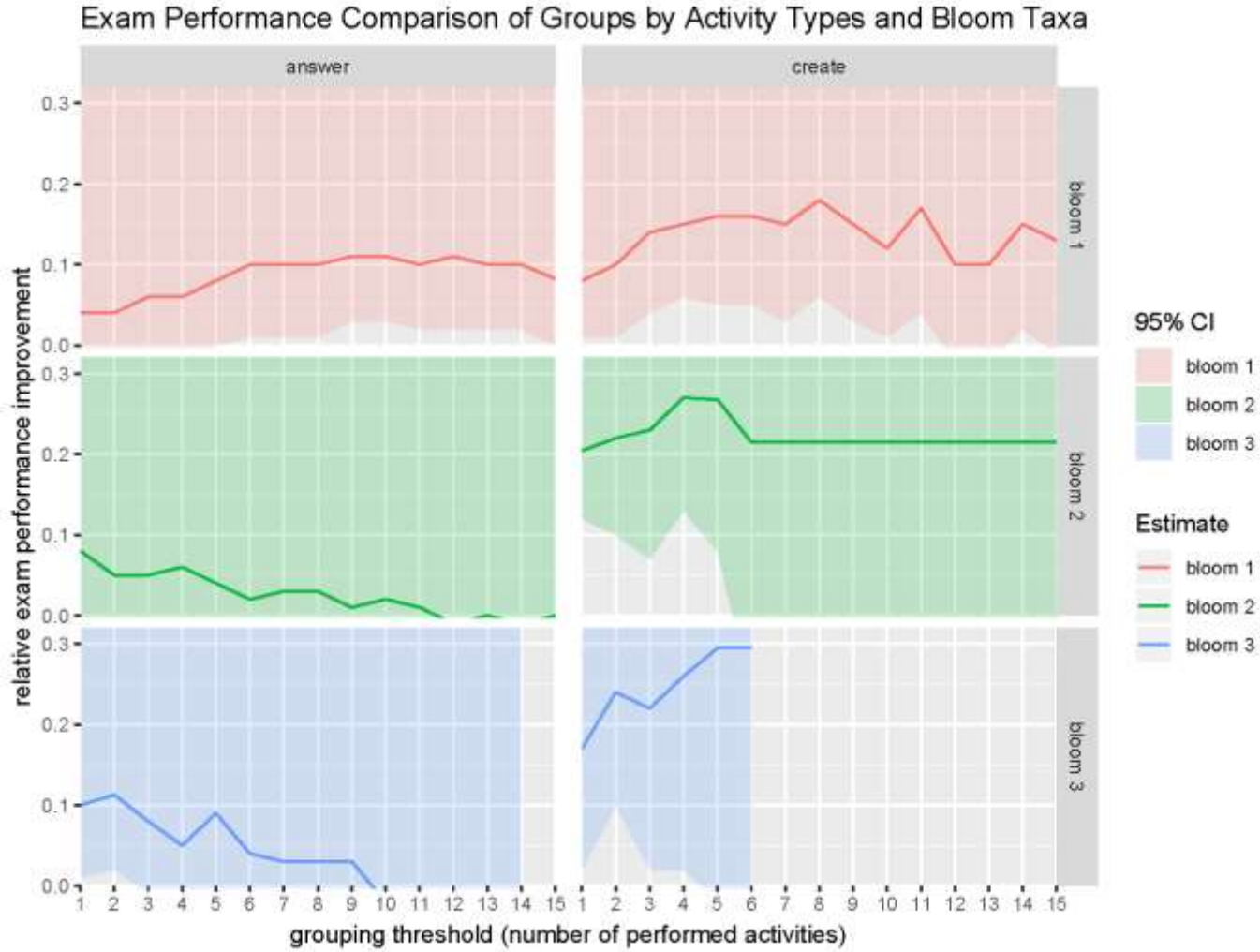
Research Questions (Part I)

- Is there a correlation between students learning activities and their exam performance?
- Does the type of learning activity matter?
 - “creating” vs “consuming”
 - learning objective type (Bloom):
e.g. creating micro-content for “remembering” vs creating micro-content for “applying”

Which students are better? Exam performance vs system activity



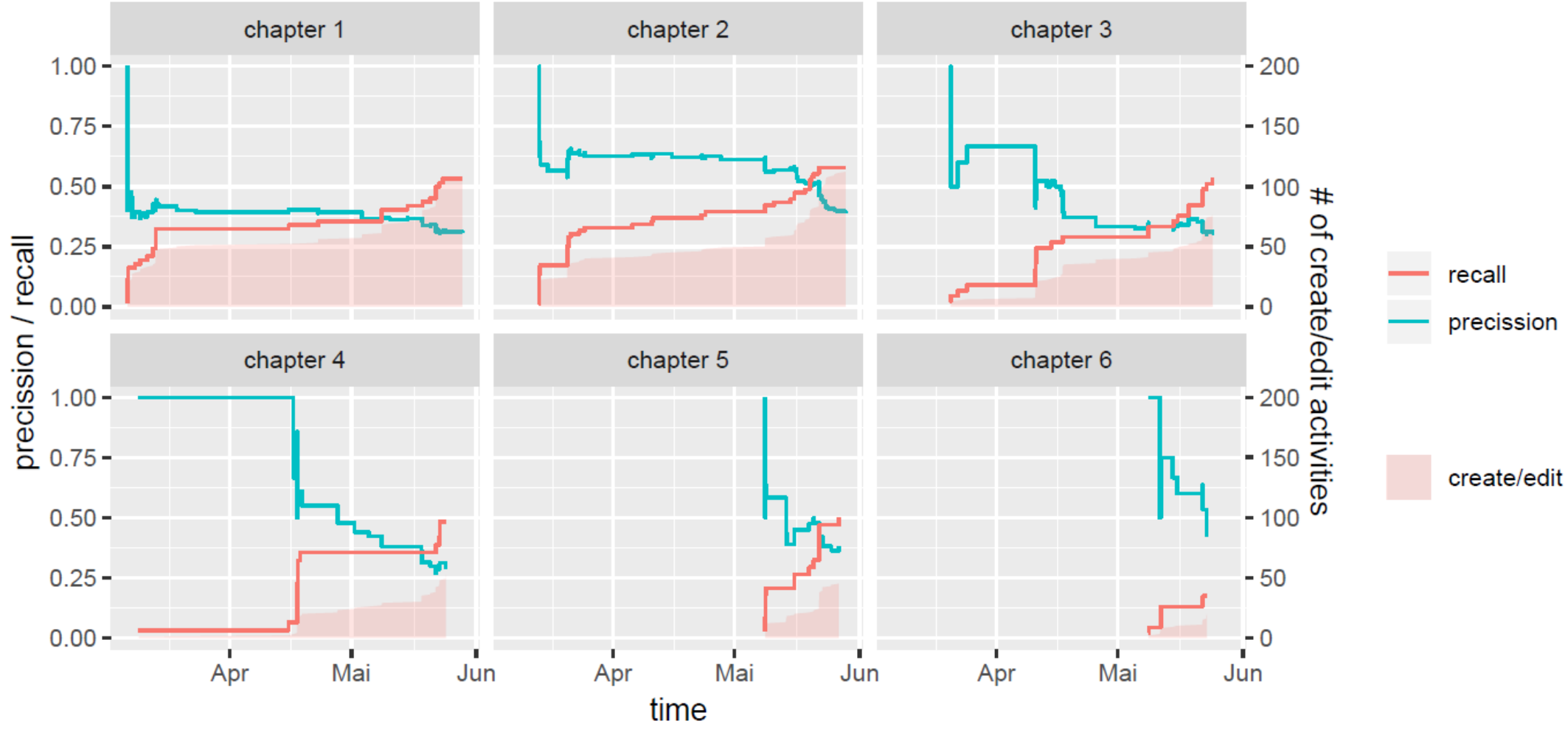
Which type of activity?



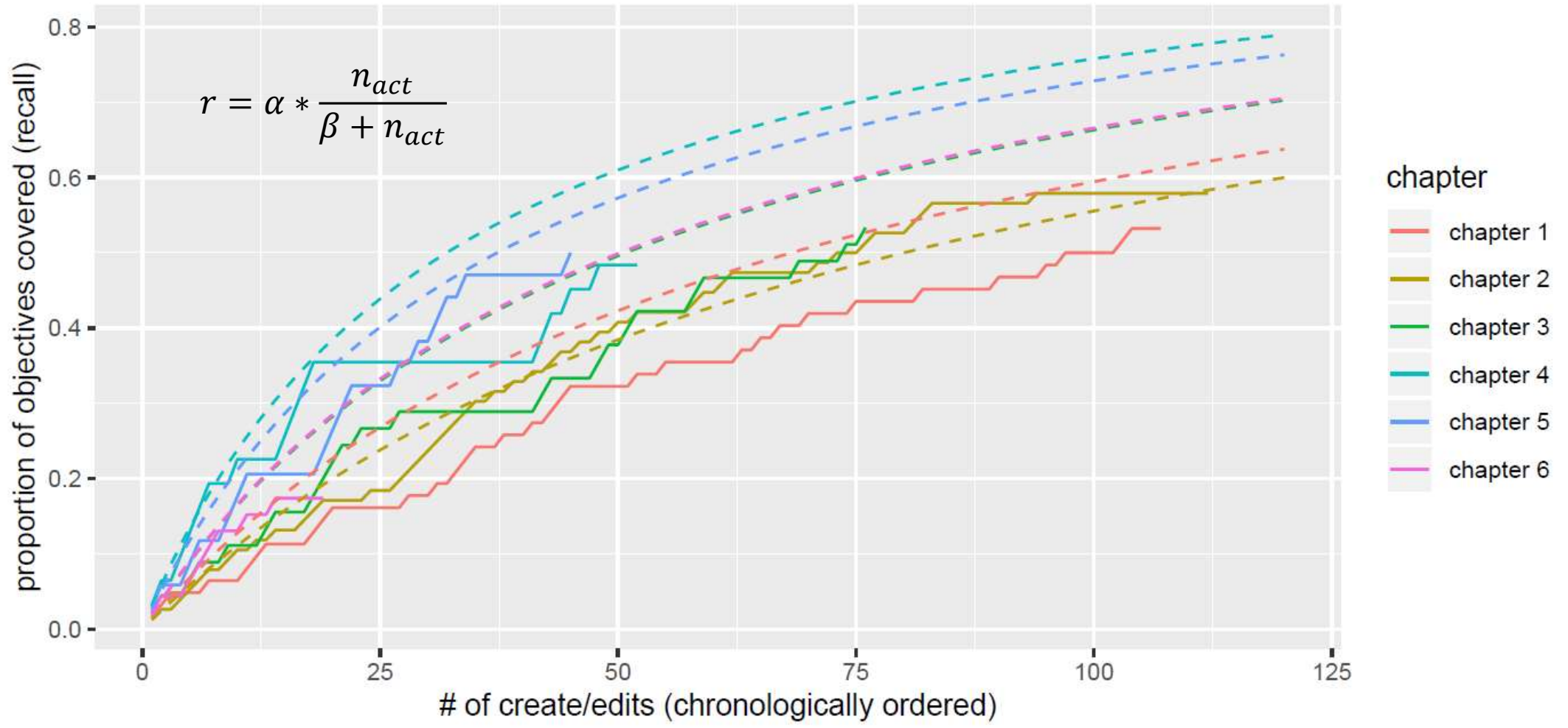
Research Questions (Part II)

- Do students even produce content for each learning objective?
- How fast can they cover the lectures objectives with their own user generated content?

Coverage of lecture objectives by student generated content over time – interpreted as precision and recall



Growth Model: Saturation Growth



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Conclusion

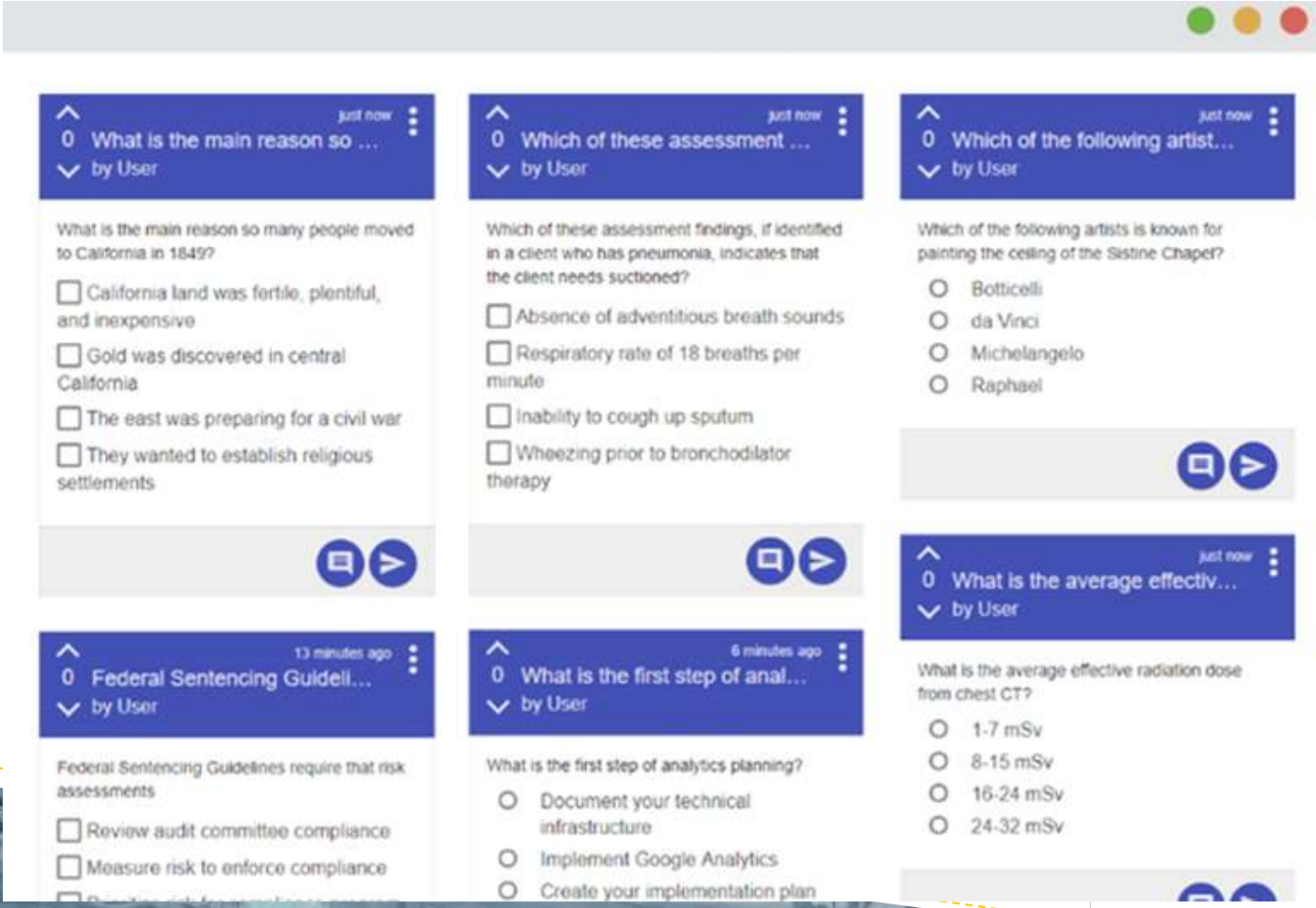
Impact of Social MicroLearning



Social MicroLearning is needed...

- necessity of not only including a social dimension into MicroLearning, but rather putting it at the core of system design.
- empirical results on the effectiveness of Social MicroLearning in terms of
 - student performance
 - modeling domain knowledge with micro-content
 - attractiveness of Social MicroLearning

We have a Social MicroLearning Platform – and it’s growing!



Thanks for your attention! Visit socialmicrolearning.com!



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