Lessons from EuroPLAT 2017

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What is EuroPLAT?

- *European Psychology Learning and Teaching Conference*
- *Evidence-based Improvement for Learning and Teaching Psychology*
- *September 18th – 20th, 2017, Salzburg, Austria*
- **Conference Chair**
- *Univ.-Prof. Dr. Joerg Zumbach*, Paris Lodron University of Salzburg, Austria

Journeys to Psychology: Different Perspectives on Pre-Tertiary Teaching of Psychology in Europe

My favourites

- **Ways and Means of Enhancing Students' Involvement and Study Behaviour**
- Student's dysfunctional distributing of learning activities: Relations to course organization and metacognitive judgements. (*Dutke, Roeder & Barenberg*)

- **Ways and Means of Enhancing Students' Learning Activity**
- Confident and correct? Written reflection tasks in a lecture. (*Kordts-Freudinger, Klingsieck & Seifried*)

- Learning through retrieval practice: additional evidence from behaviour and brain imaging studies.(*Jonsson, Nyberg, Karlsson & Stenlund*)

- **Evidence-Based Teaching in Psychology**
- The testing effect in the psychology classroom: A meta-analytic perspective (*Barenberg, Schwieren & Dutke*)

- **Understanding Group Work in Education: Psychological Perspectives on Group Work Processes**
- Problem-based learning as means and objective: the purpose of tutorial groups in psychology. (*Rosander & Hammar Chiriac*)

Aims of this session

- To provide an overview of some of the research at EuroPLAT 2017

- To consider the implications of the research for the teaching of psychology

- To discuss how the research can make a difference to our students

Student's dysfunctional distribution of learning activities:
Relations to course organization and metacognitive judgements.
(*Dutke, Roeder & Barenberg*)

- Students heap their learning activities shortly before examinations or tests.

- This does not support spaced learning and successive relearning.

- Investigated to what extent dysfunctional distribution of learning activities:
  (a) is a function of the organization of the course and
  (b) affects metacognitive judgments about learning performance.

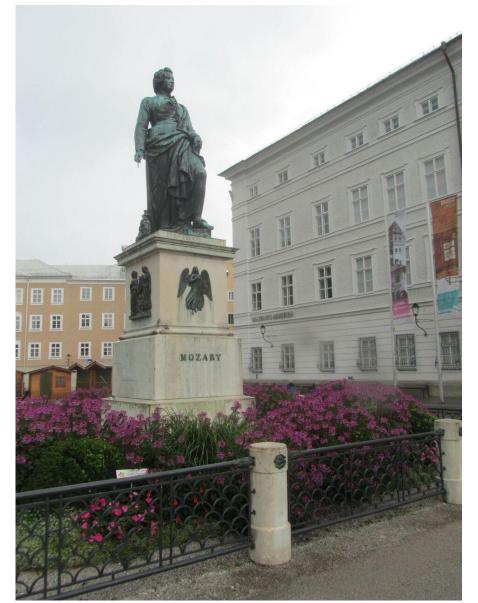# Dysfunctional distribution of learning activities

- Psychology students n=259 (University of Münster Germany)
- Given learning materials stored on an online learning platform.
- Before each week's lecture, new materials were made available on the platform and access to these materials was recorded.
- The students were either tested for their knowledge in the last week of the semester or completed three written assignments during the semester.

Dysfunctional distribution of learning activities

- Results demonstrated that the students in lectures with an end-term test mainly accessed the materials during the month before the test.

- Whereas student access in lectures with written assignments during the semester was more equally distributed over the semester.

Dysfunctional distribution of learning activities

- Students with intensive massing of learning activities were less confident in the correctness of their test responses and showed lower monitoring accuracy.

Dysfunctional distribution of learning activities

- What does this tell us?

- The different patterns in which students accessed the materials correlated with the students' confidence in the correctness of their responses in the test but not with the number of correct responses.

- What does this mean for the way we structure and assess our course?

Salzburg – birthplace of W.A. Mozart

Confident and correct? Written reflection tasks in a lecture (*Kordts-Freudinger, Klingsieck & Seifried*)

- Research has shown that knowledge and confidence is enhanced by problem-based reflections.
- They investigated if shorter, less intensive and more generic reflections would have the same effects.
- Does choosing the contents on which to reflect, affect both knowledge and confidence in answers?

Confident and correct?

- Master of Education students (n = 364) completed six short written reflections on six lectures (Paderborn University, Germany)
- Three of which were mandatory and three of which could be chosen by the students.
- The students also completed two questionnaires to measure their knowledge of the whole lecture content
  i. at the beginning and
  ii. at the end of the semester.

Confident and correct?

- Results indicated that overall knowledge was not enhanced by the reflections but that the students' confidence was enhanced by the reflections

- Choice of reflection enhanced the knowledge gain but did not enhance the confidence gain.

Confident and correct?

- Knowledge is enhanced by short written reflections if students can choose the content themselves.

- Reflections that do not enhance overall knowledge do, however, enhance confidence in knowledge.
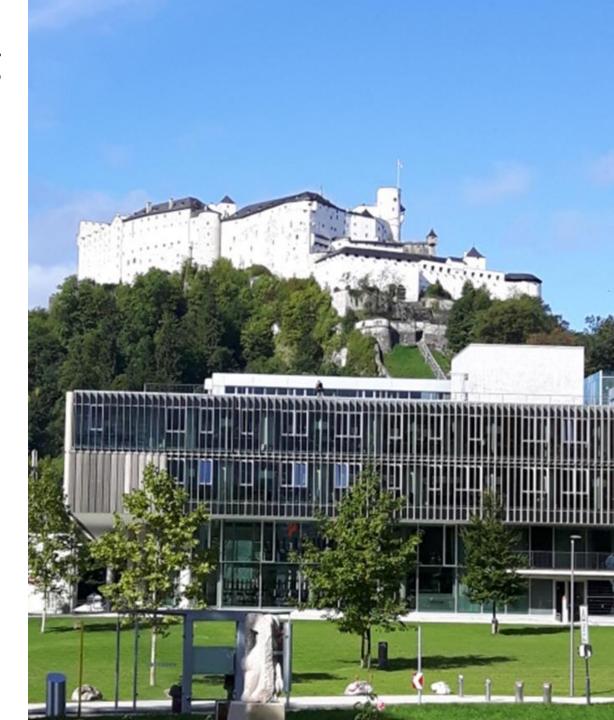
Confident and correct?

- What does this tell us?

- Reflection tasks are useful for improving students' confidence in learning material.
- Students should choose the topics for reflection tasks to improve their knowledge.

- What does this mean for the way we teach our course?

Hohensalzburg Castle

The Paris Lodron University of Salzburg

Learning through retrieval practice: additional evidence from behaviour and brain imaging studies (*Jonsson, Nyberg, Karlsson & Stenlund*)

- The so called testing effect is the effect of learning through retrieval practice.

- Retrieval practice is assumed to strengthen the memory trace by elaborating the encoded information and by creating different retrieval routes to the information in long-term memory (Dunlosky, Rawson, Marsh, Nathan, & Willingham, 2013).

- Testing effects have been demonstrated across an impressive range of practice-test formats, kinds of material, learner ages, outcome measures, and retention intervals (Dunlosky 2013)

Learning through retrieval practice

- Three studies targeting university and upper secondary students (Umeå University, Sweden)

- Study 1 focused on retrieval practice learning of key concepts in an university course. Learning was also investigated in relation to working memory capacity (WMC).

- Study 2 was a comparison between retrieval practices and group discussion in relation to the personality characteristic of the Need For Cognition (NFC).

- Study 3 investigated the benefits of successful retrieval and the impact on brain activity across repeated retrieval.

Learning through retrieval practice

- Study 1 showed that retrieval practice is superior to repeated study and that the effects are independent of WMC.

- Study 2 showed that retrieval practice was superior to group discussions and that NFC was associated with group discussion but not retrieval practice.

- Study 3 showed through fMRI that successful repeated retrieval is characterized by a reduction in frontal lobe activity suggesting reduced cognitive load.

Learning through retrieval practice

- What does this tell us?

- Retrieval practice is an effective technique independent of cognitive proficiency (WMC) and personality characteristic (NFC)

- Do our students use effective learning and revision strategies?

The testing effect in the psychology classroom: A meta-analytic perspective (*Barenberg, Schwieren & Dutke*)

- The testing effect demonstrates that taking tests during the learning phase facilitates later retrieval from long-term memory.

- The study (University of Münster, Germany) investigated the extent that the testing effect can be observed and effectively used in learning and teaching psychology.

The testing effect

- Inspection of the research literature yielded 19 publications (July 1984 to February 2016) that investigated the testing effect in the context of learning and teaching psychology.

- A total of 72 effect sizes were extracted from these publications and subjected to a meta-analysis.

The testing effect

- A significant overall effect size (Cohen's d = 0.56) demonstrated that testing was beneficial to learning outcomes.

- The implementation of feedback enhanced the testing effect if all other variables were held constant.

The testing effect

- What does this tell us?

- The testing effect is strong, and can be successfully adopted in teaching psychology.

- The implementation of retrieval practice in psychology classrooms is recommended.

- Your thoughts?

Problem-based learning as means and objective: the purpose of tutorial groups in psychology (*Rosander & Hammar Chiriac*)

- The aim of this study was to investigate how first-year students of psychology view the purpose of tutorial groups in problem-based learning (PBL).

- Identification with the group determines how the membership influences the students' actions and thoughts.
- A tutorial has the potential for both a strong positive and negative social influence.

- Feelings of autonomy, relatedness and competence are important for internalisation and intrinsic motivation.

Tutorial groups in psychology

- 147 students from 24 tutorial groups participated in the study (Linköping University Sweden)

- Providing 399 statements in response to the question 'What is the purpose of tutorial groups?''

- Data were analysed using thematic analysis.

Tutorial groups in psychology

- The results showed a focus on both learning and social influence.

- The tutorial involved learning as both an objective and as a means.

- Social influence is important for a tutorial to become a well-functioning group.

Tutorial groups in psychology

- Conclusions

- PBL creates conditions for autonomy.
- A well-functioning tutorial group fosters feelings of relatedness.
- Using the group as a place for discussion, reflection, and expression of thoughts and knowledge contributes to feelings of competence.

Tutorial groups in psychology

- What does this tell us?

- All three aspects of autonomy, relatedness and competence are important for creating motivation to learn in terms of intrinsic self-regulated motivation.

- Do you use tutorial groups in your teaching?

Europlat 2017 Conference
Thank you