UNIVERSITÄT
SALZBURG

EUROPLAT
European Psychology Learning and Teaching

EUROPLAT 2017 Conference

European Psychology Learning and Teaching Conference
Evidence-based Improvement for Learning and Teaching Psychology
September 18th – 20th, 2017, Salzburg, Austria

Program Book

Contents

Welcome to the Europlat 2017 Conference
Univ.-Prof. Dr. Heinrich Schmidinger

As Rector of the Paris Lodron University of Salzburg, I bid you a very warm welcome to the European Psychology Learning and Teaching conference in September 2017 in Salzburg, Austria. Salzburg with its beautiful scenery, its many historical sites and the Festival, is one of the most beautiful and interesting cities in the world. And Salzburg is a university town with a long tradition. The University of Salzburg was founded in 1622. Today it consists of four faculties, with approximately 18,000 students and 2,800 employees. It is a center for innovative research and is firmly integrated into the cultural and economic life of Salzburg. With its national and international networking, it is a modern knowledge hub in the heart of Europe. We offer you a warm welcome to your conference at our University. I hope that your conference will be a successful hub for further scientific and practical work for Psychology teaching and learning and that you enjoy the conference, the university and the city.

Heinrich Schmidinger
Rector of the University of Salzburg

Welcome to the Europlat 2017 Conference
Univ.-Prof. Dr. Erich Müller

As vice-president for teaching affairs at the University of Salzburg, I am pleased to invite you to the European Psychology Learning and Teaching conference. This congress will be held at the University of Salzburg, Austria, from 18 - 20th September, 2017. It will be the follow-up conference of some of the first international congresses on European Psychology Learning and Teaching. The last one was held at the University of Vilnius, Lithuania, in 2012. This congress will be organized by the School of Education of the University of Salzburg.

The scientific program will offer a broad and interdisciplinary spectrum of current research work in teaching and learning of Psychology. Internationally well-known scientists will present their keynotes, many colleagues from all over the world will discuss their scientific findings in oral or poster presentations.

In addition to the scientific work, many social activities will provide opportunities to make friends, to perceive Austrian hospitality and to enjoy what Salzburg has to offer in this wonderful region. Salzburg as World Heritage is famous for its history, its beautiful sights and its cultural offers.

We welcome you at the University of Salzburg and hope that you make the European Psychology Learning and Teaching conference a memorable event.

We are looking forward to welcome you in Salzburg.

Erich Müller

Vice-Rector for Teaching Affairs at the University of Salzburg

Welcome to the Europlat 2017 Conference
Univ.-Prof. Dr. Jörg Zumbach

Welcome to the European Psychology Learning and Teaching conference 2017 at the University of Salzburg, Austria. As conference chair I am glad to host this event with the School of Education. After a series of conferences during the past years and a break of five years, we are now starting in a new era and hopefully successful series of upcoming conferences of Europlat. The School of Education at the University of Salzburg is one of the leading academic centers in Austria for teaching and learning research and also proud to host this conference.

I especially want to thank here the local organization team, the international organization team and all members of the program committee for their support. We had an amazing amount of submissions for paper and poster presentation and symposia. All of these contributions have been double-blind peer-reviewed rigorously.

Together with two keynote presentations we are able to present an outstanding scientific program. In addition, Salzburg is known to be one of Austria's top places of hospitality. We are following this tradition and welcome you warmly to the conference and hope that we will have an outstanding event.

Sincerely,

Jörg Zumbach

Conference chair

Conference Venue

The conference will take place at the UNIPark building of the Paris Lodron University of Salzburg, located near to the historic center of the city of Salzburg. Participants will have the opportunity to experience this UNESCO World Heritage site and enjoy the Baroque architecture and the cultural offerings Salzburg as the "Mozart-City" provides.

Address: Erzabt-Klotz-Strasse 1, 5020 Salzburg

Travel Information

Train

The main station is only a few minutes far from the city center. Rail passengers will arrive here and have the opportunity to choose between bus and taxi transfers to the UNIPark building or their hotels. For timetables, routes and tips please refer to the following websites:
- Austrian Federal Railways – ÖBB: www.oebb.at/en
- Westbahn: www.westbahn.at

Bus

Public bus service is offered in regular intervals from different locations (i.e. airport, main station) to the center of the city:
- From main station to UNIPark building: bus line 3 and 5, both stop at "Justizgebäude".
- From airport to UNIPark building: bus line 10 or 27, both stop at "UNI-Park/Justizgebäude".

For detailed information and timetables please visit one of the following websites:
- Bus lines in Salzburg: www.salzburg-verkehr.at/en
- Timetables Salzburg City Bus (only German version): www.salzburg-ag.at/verkehr/obus/fahrplan
- Salzburg Travel App: www.salzburg-verkehr.at/en

Taxi

Taxi ranks are located all over Salzburg. At the airport and main station they are located in front of the entrance area.

To book a taxi please call 81-11 or visit www.taxi.at/en.

Car

You can use the parking deck of the conference place. Please notice that parking space is limited and costs €1 per hour.

Conference Dinner

We warmly invite you to join our conference dinner at the „Hubertushof Anif". You may use this evening to talk with your colleagues in a wonderful atmosphere, listen to traditional Austrian music, enjoy Austrian culinary specialties (there will be also a vegetarian choice) and relax a little bit.

The conference dinner will comprise an appetizer and a typical Austrian buffet. Water and wine will be included as well.

How to get to the Conference Dinner?

Bus tickets for all participants will be provided in your Conference Bag. Please come to the Infopoint on Tuesday, at 18:20. We will walk together to the bus station "Justizgebäude". The Bus number 25 leaves at 18:47 and will bring us directly to the Conference Dinner Venue. The last bus back towards the city leaves at 23:05 from the bus station "Neu-Anif" which is quiet next to the Hubertushof.

Important: Your bus ticket is valid for 24 hours – don't throw it away, you can use it in the whole city centre till 18:47 on Wednesday.

If you have not registered for the conference dinner yet, please come to the Informationpoint and talk to one of our conference guides. The conference dinner costs € 50. Please understand that we can only register participants for the dinner until Monday, 14:00.

Address:
Hubertushof Anif
Alpenstrasse 110
5081 Anif

Organizing Committee

Conference Chair

Univ.-Prof. Dr. Joerg Zumbach, Paris Lodron University of Salzburg, Austria

Local Organization Team

Mag. Christine Maria Neuner, Paris Lodron University of Salzburg, Austria

Dr. Ines Deibl, MA, Paris Lodron University of Salzburg, Austria

Viola Maria Geiger, MSc, Paris Lodron University of Salzburg, Austria

Extended Organization Team

Prof. Dr. Stephan Dutke, University of Muenster, Germany

Prof. Dr. Birgit Spinath, Heidelberg University, Germany

Dr. Jacqui Taylor, Bournemouth University, United Kingdom

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*Dr. Jacqui **Taylor**,* Bournemouth University, United Kingdom

*Univ.-Prof. Dr. Joerg **Zumbach**,* Paris Lodron University of Salzburg, Austria

Time Schedule

Monday, 18.9.2017		
10:00-18:00	Conference Registration & Infopoint	
12:00-12:30	Opening Ceremony	
12:30-13:30	Keynote I	
13:30-14:30	Lunch Break	
14:30-16:00	Symposium 1	Paper Session 1
16:00-16:30	Coffee Break	
16:30-18:00	Symposium 2	Paper Session 2
18:00-19:00	Posters & Reception	
19:10-21:00	Classical City Tour	

Tuesday, 19.9.2017		
08:00-18:00	Conference Infopoint	
09:00-10:30	Symposium 3	Paper Session 3
10:30-11:00	Coffee Break	
11:00-12:30	Symposium 3	Paper Session 4
12:30-13:30	Lunch Break	Meet the Editor: *Birgit Spinath*
13:30-14:30	Keynote II	
14:30-15:00	Coffee Break	
15:00-16:30	Paper Session 5	Paper Session 6
16:30-17:00	Coffee Break	
17:00-19:00	Founding Assembly of the Europlat	
From 19.30	Conference Dinner	

Wednesday, 20.9.2017		
08:00-12:00	Conference Infopoint	
09:00-10:30	Symposium 4	Paper Session 7
10:30-11:00	Coffee Break	
11:00-12:30	Paper Session 8	Paper Session 9
12:30-13:00	Closing Ceremony & Farewell (with Paper Award)	

Program Overview

10:00-18:00   **Conference Registration & Infopoint** (Room: First Floor, Gallery)

12:00-12:30   **Opening Ceremony** (Room: HS Thomas Bernhard, EG0.001)

12:30-13:30   **Keynote Lecture by Douglas A. Bernstein, Ph.D.**
DOES ACTIVE LEARNING WORK? A GOOD QUESTION BUT NOT THE RIGHT ONE.
Room: HS Thomas Bernhard, EG0.001

13:30-14:30   **Lunch Break**

14:30-16:00   **Symposium 1**
Understanding Group Work in Education: Psychological Perspectives on Group Work Processes
Organizer: *Sally Wiggins*; Chair: *Stefan Blomberg*; Discussant: *Regina Pauli*
Room: SE 1.006/1.007

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

2. 'Doing' disagreement without being disagreeable: How students deal with conversational norms in group work. (*McQuade, Wiggins & Ventura-Medina*)

3. Group work assessment of knowledge and abilities. (*Hammar Chiriac, Forsell, Forsund*)

Paper Session 1
Ways and Means of Enhancing Students' Involvement and Study Behavior
Chair: *Birgit Spinath*
Room: SE 1.008/1.009

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

2. Active student participation: engaging in academic activity. (*Gruber*)

3. Change of course-specific motivation during a semester and the role of course-specific expectations. (*Seifried, Kriegbaum & Spinath*)

16:00–16:30   **Coffee Break**

16:30-18:00 **Symposium 2**
Journeys to Psychology: Different Perspectives on Pre-Tertiary Teaching of Psychology in Europe
Organizers: *EFPTA & EFPA BEA*; Chair: *Stephan Dutke*; Discussant: *???*
Room: SE 1.006/1.007

1. The student journey into psychology starts at school. (*Wiliamson, Coombs & Schrempf*)

2. Who are the guides on the journey towards psychology? Professional trajectories of psychology teachers in Europe. (*Sokolová*)

3. The role of character strengths in the A-level psychology classroom. (*McGinty*)

Paper Session 2
Conveyance of Psychological Contents with Particular Attention on Epistemic Beliefs and Scientific Literacy
Chair: *Eva Seifried*
Room: SE 1.008/1.009

1. What kinds of beliefs have pre-service teacher students about the nature of educational psychology? – Development and evaluation of an instrument to assess student's epistemological beliefs. (*Zumbach, Moser & Deibl*)

2. Changing psychology students' epistemic beliefs through "resolvable controversies": Evidence from two studies. (*Rosman & Mayer*)

3. Building scientific literacy: Fake (Science) News in the classroom.
(*Nolan*)

18:00–19:00 **Posters & Reception** (Room: First Floor, Gallery)

19:10 -21:00 **Classical City Tour**
(Meeting Point at the Conference Registration & Infopoint: First Floor, Gallery)

08:00-18:00   **Conference Infopoint** (Room: First Floor, Gallery)

09:00-10:30   **Symposium 3**
Psychological Literacy in Action (Part I)
Organizer: *Jacqui Taylor*; Chair: *Jacqui Taylor*
Room: SE 1.006/1.007

1. Case studies to illustrate psychological literacy in action: Sharing activities to develop psychological literacy across the curriculum. (*Taylor & Hulme*)

2. Forming groups: Enhancing psychological literacy through a group selection exercise. (*Hammar Chiriac, Rosander & Wiggins*)

3. Students-as-partners pedagogies influence student perceptions of their psychological literacy. (*Pauli, Worrell & Raymond-Barker*)

Paper Session 3
Quality Assurance in Academic Context – Evaluation Tools
Chair: *Christine Maria Neuner*
Room: SE 1.008/1.009

1. Constructive Alignment in the field of educational psychology: Development and application of a questionnaire for assessing constructive alignment. (*Deibl, Zumbach & Geiger*)

2. Students' Evaluations of Teaching are associated with the subjective likeability of teachers. (*Feistauer & Richter*)

3. Progress Test Psychology (PTP) and quality management of the bachelor program at Witten/Herdecke University. (*Ehlers, Troche, Ostermann & Hofmann*)

10:30-11:00   **Coffee Break**

11:00-12:30   **Symposium 3**
Psychological Literacy in Action (Part II)
Organizer: *Jacqui Taylor*; Chair: *Jacqui Taylor*
Room: SE 1.006/1.007

1. Enterprise challenges in psychology: Enhancing psychological literacy through entrepreneurial learning. (*Rosenkranz, Dunn, Fielden, James & Warin*)

2. Problem-Based Learning Addresses Multiple Components of Psychological Literacy: The Case of Gay Conversion Therapy. (*Searight*)

3. Nolting's model of the mental system as a heuristic tool to promote psychological literacy in pre-tertiary psychology education. (*Geiss*)

Paper Session 4
Skill Provision in Terms of Future Teaching Contexts – Personal Skills Development
Chair: *Ines Deibl*
Room: *SE 1.008/1.009*

1. Effects of emotional activation on beliefs, attitudes and teaching intentions of pre-service teachers (*Egloff & Souvignier*)

2. Psychology in teacher training – Art therapy technique of collage as a tool to reflect on professional identity development (*Stuchlikova, Mazehoova & Kourilova*)

3. Pre-service teachers' difficulties in solving classroom problems by aid of psychological knowledge: A comparison of beginning and advanced students (*Kiemer & Kollar*)

12:30-13:30	**Lunch Break**
12:30-13:30	**Meet the editor: *Birgit Spinath* – Psychology Learning and Teaching** Room: SE 1.006/1.007
13:30-14:30	**Keynote Lecture by Prof. Dr. Paul A. Kirschner** EDUCATIONAL URBAN LEGENDS: BUSTING PERSISTENT MYTHS IN EDUCATION AND PSYCHOLOGY Room: HS Thomas Bernhard, EG0.001
14:30-15:00	**Coffee Break**
15:00-16:30	**Paper Session 5** **Skill Provision in Terms of Future Social or Clinical Context – Mental Health Professionals** Chair: *Viola Geiger* Room: SE 1.006/1.007

1. Teaching psychopathology through film and memoir (*Searight*)

2. Importance of casual attributions, stigmatizing emotions and community mental health ideology on social distance from people with mental illness in Lithuanian and US future mental health professionals (*Žardeckaitė-Matulaitienė, Pranckevičienė, Markšaitytė, Endriulaitienė, Tillman & Hof*)

3. Learning in a clinical setting – Innovative methods in teaching practical skills to psychology students (*Haller, Zeller, Mühlenbeck & Danzer*)

15:00-16:30 **Paper Session 6**
Ways and Means of Enhancing Students' Learning Activity
Chair: *Susan A. Nolan*
Room: SE 1.008/1.009

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

2. Learning trough retrieval practice: additional evidence from behavior and brain imaging studies.(*Jonsson, Nyberg, Karlsson & Stenlund*)

3. "Would you like to play a game?": Teaching psychological topics through classroom discussions, games and activities. (*Overholser*)

16:30-17:00 **Coffee Break**

17:00-19:00 **Founding Assembly of the European Society for Psychology Learning and Teaching**
Chair: *Birgit Spinath*
Room: SE 1.006/1.007

From 19:30 **Conference Dinner**

08:00-12:00 **Conference Infopoint** (Room: First Floor, Gallery)

09:00-10:30 **Symposium 4**
Evidence-Based Teaching in Psychology
Organizer: *Jacqui Taylor* & *Iolia Papageorgi*; Chair: *Iolia Papageorgi* & *Jacqui Taylor*;
Discussant: *Stephan Dutke*
Room: SE 1.006/1.007

1. Assessing students' knowledge about learning and forgetting curves with a free production technique: Measures and implications for the development of learning aids (*Blech & Gaschler*)

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

3. Combining evidence-based teaching and the scholarship of teaching and learning – An example from Teaching in Psychology (*Wenzel, Boser, Kuchta & Horz*)

Paper Session 7
Experiences and Attitudes in Student's Learning Environments: Implications and Perspectives
Chair: *Susanne Narciss*
Room: SE 1.008/1.009

1. Hope being operationalized: Psychology students' personal and theoretical understanding of hope (*Nel*)

2. When research and teaching meet: Experience-based activities for raising awareness about gender stereotypes (*Hakelind, Dennhag, Deutschmann & Steinvall*)

3. Teaching statistics to major using service learning (*Peters, Snell & Almeida*)

10:30-11:00 **Coffee Break**

11:00-12:30 **Paper Session 8**
Technology Based Approaches as Useful Learning Tools
Chair: *Lenka Sokolová*
Room: SE 1.006/1.007

1. Adapting information literacy instruction to students' academic progress – A field report (*Leichner, Mayer & Krampen*)

2. Teaching educational psychology with an audience response system – Auditorium Mobile Classroom Service (AMCS) as a mean to foster learning in university lectures (*Kapp, Braun, Hara & Narciss*)

3. Understanding engagement and active learning among online clinical students during residency experience (*Frye*)

11:00-12:30   **Paper Session 9**

Conceptual Frameworks: Perspectives of Development, Implementation and Students' Acceptance of Psychological Education Programs
Chair: *Jonathan Barenberg*
Room: SE 1.008/1.009

1. Applying user experience and design thinking methods to create target oriented trainings (*Stimm, Engeln & Högsdal*)

2. Evidence from across the pond: An approach to model teaching characteristics (*Richmond, Boysen & Gurung*)

3. Educational alienation and engagement: A critical discourse analysis of students' talk about education experiences (*Waren, Pauli & Worrell*)

12:30-13:00   **Closing Ceremony & Farewell (with Paper Award)**
Room: HS Thomas Bernhard, EG0.001

Keynote Speakers

DOES ACTIVE LEARNING WORK?

A GOOD QUESTION, BUT NOT THE RIGHT ONE.

Douglas A. Bernstein, Ph.D.

Monday, 18.9.2017; 12:30 – 13:30

Room: HS Thomas Bernhard, EG 0.001

Some research on active learning methods suggests that they are effective teaching tools, while other studies have found them to be no better than traditional lecture methods. The situation is much like the one that began to play out in the 1950s with respect to the effects of psychotherapy. In that realm, it eventually became clear that the question "does therapy work?" was not the right one. It was more important to ask "which therapies result in clinically significant benefits when delivered by whom in what manner to which clients with what problems and how durable are the benefits"?

In this talk Douglas A. Bernstein, Ph.D., will suggest that it is time for researchers in the scholarship of teaching and learning to go beyond asking whether active learning "works" and address instead of a set of deeper questions about it. Doing so will require a more systematic and critical analysis of existing evidence as well as a new generation of research designed specifically to fill in the gaps in our understanding of what active learning methods can and cannot do.

EDUCATIONAL URBAN LEGENDS.

BUSTING PERSISTENT MYTHS IN EDUCATION AND PSYCHOLOGY

Prof. Dr. Paul A. Kirschner

Tuesday, 19.9.2017; 13:30 – 14:30

Room: HS Thomas Bernhard, EG 0.001

Mark Twain once said that "In religion and politics, people's beliefs and convictions are in almost every case gotten at second hand and without examination". Unfortunately this is also true in present day education; even in teacher education and teacher training. Educational technologists, educational reformers, instructional designers, local and federal politicians, teachers, school managers, and advisory groups are all jockeying to show how innovative and up to date they can be, based not upon good science but rather upon commonly held but often unproven and/or untrue beliefs. As a result, we now find teachers, parents and students revolting against many of these so called innovations and students becoming the dupes of it all. And what is the root of all of this? The reforms that we often see are most often not based on good science (and specifically the cognitive and psychological sciences) and/or good scientific research, but rather upon beliefs, plausible sounding rationale and/or arguments, poorly designed research.

Prof. Dr. Paul A. Kirschner will look at a number of these urban legends from the perspective of what cognitive science and good research in the field has to say about them.

Session Guidelines

Paper Sessions and Symposium
General Information

A paper session consists of 3 conceptually linked papers. Each presenter has 20 minutes to present his/her work, followed by 10 minutes for questions and discussion.

For the presenter: please be on time for your presentation: make sure you are present at least 10 minutes before the session starts. We suggest that the equipment of the house is used. Switching between computers takes a lot of time and possibly emerging problems might not be solved quickly.

For the chair: Each paper session is supervised by a chair, which means that the chair is moderating the session. The chair opens and closes the session and monitors the time of the presentations. Please alert the speaker 5 minutes and 1 minute before the presentation time is up. After the presentation, the chair will open the discussion to the audience.

For the discussant: The discussant will start the discussion after all presentations with a few questions or reflections about the presented research. This means that within a symposium, each presenter has 20 minutes of speaking time and after all presentations, there will be 30 minutes left for discussions.

Poster Session
General Information

The poster session will take place at the Gallery on the First Floor from 18:00 – 19:00 on Monday. Please make sure to arrive with your poster at least 10 minutes before the session starts. Display panels and tape will be provided to display the poster. It is your own responsibility to attach your poster to the easel prior to the session. It is recommended that you bring some small copies of the poster with you, to distribute to interested participants.

Paper Sessions

Paper Session 1

Ways and Means of Enhancing Students' Involvement and Study Behavior
Chair: *Birgit Spinath*; Room: SE 1.008/1.009

Student's dysfunctional distributing of learning activities: Relations to course organization and metacognitive judgements.

Stephan Dutke, Ute-Regina Roeder, & Jonathan Barenberg

University of Münster

Studies demonstrate that students' study behavior is frequently dysfunctional in that learning activities heap up shortly before examinations or tests. This behavior does not support spaced learning and successive relearning and thus often impairs academic achievement. We 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.

Participants of four psychology lectures (N = 259) were presented with learning materials stored on the university's online learning platform. During the semester, before each week's lecture, new materials were made available on the platform. Accesses to these materials were registered and aggregated for each month of the semester. In two lectures, the students were tested for their knowledge in the last week of the semester; in two lectures, they were not tested. Instead, the students in these lectures fulfilled three written assignments during the semester.

Results demonstrated that the students in lectures with an end-term test mainly accessed the materials during the month before the test, whereas accesses in lectures with written assignments during the semester were more equally distributed over the semester. Cluster analyses revealed that students differed in the temporal patterns in which they accessed the materials. These different patterns were correlated with the students' confidence in the correctness of their responses in the test but not with the number of correct responses.

Extended Summary:

Objectives or purposes
In this study, we investigated the extent to which dysfunctional study behavior in terms of massed instead of spaced learning is a function of the organizational structure of the course. Furthermore, we investigated the impact of dysfunctional study behavior on learning performance as well as on metacognitive monitoring accuracy.

Perspective(s) or theoretical framework
Studying psychology at the university level implicates a high level of self-paced learning outside common educational settings (i.e. lectures and seminars), and thus requiring advanced skills of self-regulated learning. Although numerous studies demonstrate the benefits of spacing learning activities, many students seem unaware of this strategy. Studies examining students' distribution of learning activities over the course of the semester show that they often tend to mass learning before exams which is due to their understanding of effective learning (e.g., Taraban, Maki, & Rynearson, 1999). Remarkably, Kornell (2009) revealed across three experiments that a majority of students experiencing benefits of spaced learning still stuck to the false metacognitive belief of massing learn-

ing being more effective than spacing. As the preference for massing learning activities seem to be such widespread, we set out to examine this issue in four psychology lectures regarding students' activities on an online learning platform. Specifically, we investigated the extent to which dysfunctional distribution of learning activities (a) is a function of the organization of the course and (b) affects learning performance and metacognitive judgments about learning performance.

Methods, techniques, or modes of inquiry

Participants of four psychology lectures (*N* = 259) were presented with learning materials stored on the university's online learning platform. During the semester, before each week's lecture, new materials were published on the platform. Accesses to these materials were automatically registered and aggregated for each student at the first day of each month. The four lectures were differently organized. In two lectures, the students were tested for their knowledge in the last week of the semester; in two lectures, they were not tested. Instead, the students in these lectures fulfilled three written assignments during the semester.

Data sources, evidence, objects, or materials

Participants were teacher students in their master's phase studying different school subjects for primary or secondary schools. The learning materials available on the online platform included presentations, videos of previous lectures, references, and self-study questions, for example. Two lectures were conducted in the summer term 2016 and two lectures in the winter term 2016/17; one lecture with end-term test and one lecture with assignments distributed across the semester within each term.

Results and/or substantiated conclusions or warrants for arguments/point of view

We compared the lectures with end-term test and distributed assignments, separately for the summer and the winter term. Results demonstrated that the students in lectures with end-term test mainly accessed the materials during the month before the test, whereas accesses in lectures with written assignments during the semester were more equally distributed over the semester. This pattern was found in both semesters. Cluster analyses revealed that students in lectures with end-term tests differed in the temporal patterns in which they accessed the materials. These differential patterns were correlated with the students' confidence in the correctness of their test responses but not with the number of correct responses. Particularly, students who tended to intensive massing of learning activities were less (least) confident in the correctness of their test responses and showed lower (lowest) monitoring accuracy.

Scientific or scholarly significance of the study or work

Spacing or massing learning activities is partially a function of when the students are stimulated to perform learning activities. Challenging their activity solely by a test at the end of the semester supported massed learning as indicated by accessing learning materials. Comparisons within the lectures employing end-term tests demonstrated that massed learning is not necessarily associated with lower test performance. However, massed learning decreased metacognitive monitoring accuracy.

References

Kornell, N. (2009). Optimizing learning using flashcards: spacing is more effective than cramming. *Applied Cognitive Psychology, 23*, 1297–1317. doi: 10.1002/acp.1537.

Taraban, R., Maki, W. S., & Rynearson, K. (1999). Measuring study time distributions: Implications for designing computer-based courses. *Behavior Research Methods, Instruments, & Computers, 31,* 263–269. doi:10.3758/BF03207718.

Active student participation: engaging in academic activity.

Michael Gruber

Umeå University

Active student participation in academic contexts can be used to enhance both meta-cognitive study skills and study results. Since spring 2015, the Department of psychology at Umeå University has worked specifically with a project called "Active student participation". The goal is to increase student participation in both extracurricular activities and within courses with the aim to decrease student dropout numbers, increase meta-cognitive study related skills and enhance the quality of students' academic experience. Several activities were planned and carried through in collaboration with students: a welcoming arrangement, lecture and exercises in study strategies, a program day, competence portfolio work, peer-learning activities, enhancing communication between students and between students and department, and preparatory meetings with student representatives. All first-year students in the psychology program and the cognitive science program completed a Swedish version of the Motivated Strategies for Learning Questionnaire (MSQL) and the Academic Self-Regulation Questionnaire (SRQ-A) at the beginning of their studies (September 2016) and again at the end of year one (May 2017). Data will be presented on student's study results, student evaluations and pre-and post-measures of the questionnaires.

<u>Extended Summary</u>

Active student participation in academic contexts can be used to enhance both meta-cognitive study skills and study results (Cook-Sather, Bovill, & Felten ,2014). Since spring 2015, the Department of psychology at Umeå University has worked specifically with a project called "Active student participation". The project was in part inspired by a large project working with active student participation at Uppsala University (Hald & Nyström, 2011; Gärdebo & Wiggberg, 2012). Our overall goal is to increase student participation in both extracurricular activities and within courses with the aim to decrease student dropout numbers, increase meta-cognitive study related skills and enhance the quality of students' academic experience. More specifically our goals are to increase student's self-confidence, motivation, engagement, responsibility and their study related metacognitive awareness. We also want the students to deepen their understanding of the goals of higher education and the teachers' pedagogical intentions. Working with active student participation also aims at making the students experience the learning situation as a more democratic process and develop their professional identity.

Andersson (2012) lists several reasons for working with active student participation: it improves learning, it improves student retention, and it contributes to personal development. One way to increase student participation is to activate them in peer learning (Boud, Cohen, & Sampson, 1999). Peer-learning aims at increased learning for all involved, both those who are being taught but also as a deeper understanding for the students teaching. Peer-learning also increases participation in the learning process for the students being taught and increases engagement for the students teaching.

At the start of the Active student participation project a special administrator was designated for the project. Several activities where implemented to reach each of the goals and all activities were planned together with students: 1. A welcoming event was held at the start of the first course with the aim of increasing student engagement, responsibility and an understanding for higher education. 2. A lecture on study techniques and a follow up study time scheduling practice was carried out during the first two weeks aiming at increasing study results, responsibility and an understanding of the goals of higher education. 3. Program days were arranged to increase self-confidence, motivation, responsibility, developing identity, and the activity in the learning process. 4. Competence portfolio

work aimed at increasing self-confidence, motivation, engagement, responsibility, metacognitive awareness, and professional identity. 5. Extracurricular peer-learning activities were held by employed student assistants aiming at increased study results, responsibility and activity in the learning situation. 6. Meeting between project administrator and student representatives were held before program committee meetings and the departments educational committee meetings to prepare the students for these meetings. The aim of these preparatory meeting was to increase the students understanding for higher education, self-confidence, motivation and an experience of the educational process as being democratic.

The large majority of data will be analyzed before the EUROPLAT conference. Data will be presented of study results from the first years eight courses, course and program evaluations, and evaluations of the peer learning activities. Data will also be presented on all first-year students in the psychology program and the cognitive science program who completed a Swedish version of the Motivated Strategies for Learning Questionnaire (MSQL) (Pintrich & DeGroot, 1990) and the Academic Self-Regulation Questionnaire (SRQ-A) (Ryan & Connell, 1989) at the beginning of their studies (September 2016) and again at the end of year one (May 2017).

We have used a several activities to reach our goals. Some activities are directly related to specific effects but most activities together aim at several goals. One interesting result is already obvious. Results from the first course in the cognitive science program show that the lecture on study techniques and the accompanying practice in study time scheduling had no positive effect at all on the written exam at the end of the course compared to students from the previous two years. The students scored worse than previous groups.

We hope the results from our project can serve as a background for a discussion on how to best reach the goals we have set and share experiences of failures and successes.

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Change of course-specific motivation during a semester and the role of course-specific expectations.

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Research on short-term changes of motivation in real learning settings is scarce (see Kosovich, Flake & Hulleman, 2017). In this paper, we wanted to shed light on the form and on influencing factors of the change of the three value components of motivation (Wigfield & Eccles, 2000) within a lecture. Realistic student expectations regarding what will be learned in classes have been investigated as a factor influencing student satisfaction (Hasenberg & Schmidt-Atzert, 2013). Based on these prior findings, we hypothesized a decline of motivation and that this decline would be larger when students' expectations about the content of the lecture were not satisfied. N = 148 preservice teacher students in a lecture "Introduction to Educational Psychology" were asked to participate in surveys regarding their motivation and their course-specific expectations (three factors: overview, methods, practice) at five measurement occasions during a semester. Latent Growth Curve and Latent Change Models showed that there was a decline for all value components over time. For two components (i.e., intrinsic and utility value), we found a quadratic progress with a large decline at the beginning of the semester; for the third component (i.e., attainment value), we found a linear progress with a large decline at the end of the semester. Autoregressive cross-lagged panel models showed that the perceived (non-)fulfillment of the course-specific expectations had an influence on the extent of the decline, with different weights for the three factors. We conclude that it is important to enlighten students about the contents of psychological courses.

Extended Summary

Objectives or purposes
This study is about short-term changes of motivation in a lecture and the role of course-specific expectations for this change.

Perspective(s) or theoretical framework
Previous research has mainly been concerned with how motivation changes in the long run and several studies have shown that motivational constructs like values and expectancies (Wigfield & Eccles, 2000) decline over the academic career (e.g., Jacobs, Lanza, Osgood, Eccles, & Wigfield, 2002; Musu-Gillette, Wigfield, Harring, & Eccles, 2015). Only recently, researchers have started to investigate short-term changes in realistic learning situations (see Kosovich, Flake, & Hulleman, 2017). Kosovich and colleagues' (2017) findings include that both students' expectancies and the utility value component of motivation decreased in a psychology introduction college class during a semester. However, the development of the remaining value components (i.e., intrinsic and attainment value) was not investigated. Furthermore, the sample was very homogenous and due to the inclusion of only three measurement occasions, non-linear forms of the trajectory of the motivational development could not be modelled. Last but not least, the reasons for the decline or factors influencing the motivational development remain unclear. For another outcome, that is, student satisfaction, the role of realistic expectations has been found to be relevant (Hasenberg & Schmidt-Atzert, 2013): The more students correctly expected the contents of their studies, the more satisfied they were. By using multiple measurement occasions and by collecting data on several variables, we wanted to shed light on the form and on the influencing factors of the motivational development. We expected a decline of motivation but had no hypothesis about the form of the trajectory. However, we hypothesized that the decline in students' motivation would be larger when students' expectations about the content of the lecture were not satisfied.

Methods, techniques, or modes of inquiry

N = 148 preservice teacher students of a lecture "Introduction to Educational Psychology" were asked to participate in surveys regarding their motivation and their course-specific expectations at five measurement occasions during a semester: in week 1, 6, 10, 13, and 16 (i.e., the week before the examination).

Data sources, evidence, objects, or materials

The value components of motivation were assessed with three items each (see Steinmayr & Spinath, 2010, adapted for the university context and the specific course). Students' course-specific expectations covered three factors: getting an overview of the contents of educational psychology, learning about (psychological) methods/statistics, and receiving handy hints for teachers' professional life. Based on the results of factor analyses, each factor was modelled via four items.

Results and/or substantiated conclusions or warrants for arguments/point of view

Latent Growth Curve and Latent Change Models showed that there was a decline for all value components over time. For intrinsic value and utility value, we found a quadratic progress with a large decline at the beginning of the term; for attainment value, we found a linear progress with a large decline at the end of the term. Further analyses showed that the perceived (non-)fulfillment of the course-specific expectations had an influence on the extent of the decline in motivation, with different weights for the three factors.

Scientific or scholarly significance of the study or work

We conclude that it is important to enlighten students about the contents of psychological courses: When motivation declines during a semester, and unfulfilled expectations about the contents of a course are relevant for this change, students should be put in the position to develop realistic expectations as early as possible. In further studies, we plan to gather data about students wishes in addition to their expectations.

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Paper Session 2

Conveyance of Psychological Contents with Particular Attention on Epistemic Beliefs and Scientific Literacy

Chair: *Eva Seifried*; Room: SE 1.008/1.009

What kinds of beliefs have pre-service teacher students about the nature of educational psychology? - Development and evaluation of an instrument to assess student's epistemological beliefs.

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Educators and researchers often claim that teachers' beliefs have an impact on their conceptions, practical theories and performance in classroom. Thus, broad research is done about teacher students' epistemological beliefs. Nevertheless, research on pre-service teachers' beliefs towards educational psychology is still missing. Within this study, we designed an instrument to measure epistemological beliefs of pre-service teachers about the nature of educational psychology and tested its validity within an introductory lecture in educational psychology. We analyzed the students' change of beliefs and attitudes after and before attending the lecture. The questionnaire consists of seven subscales: Scholarly Standard Practice, Relevance of the Discipline, Scientific Quality, Usefulness, Source of Knowing, Certainty of Knowledge, and Mandatory Character of the Course. Further, we measured students' domain knowledge (via content assessment) within the domain of educational psychology. Results reveal that the applied items are adequate reliable and, show that the instrument is valid from a discriminatory perspective. Thus, it can be used in order to measure changes in students' attitudes and beliefs affected by instructional approaches and can be implemented in formative evaluation.

Extended Summary

Objectives

The objective of this study was to adopt rather generic questionnaires designed to assess epistemological beliefs regarding the specific methodology of contemporary educational psychology research. Furthermore, our aim was to apply this instrument in practice and test its validity in an applied situation in pre-service teacher training within an introductory lecture in educational psychology.

Theoretical framework

A large number of research approaches is dedicated to the field of students' beliefs about the nature of knowledge and knowledge acquisition and recently, more and more research is done on epistemological beliefs of pre-service and in service-teachers. However, as far as we know, there is no research concerning pre-service teachers' epistemological beliefs towards educational psychology yet. Epistemological beliefs of teachers play an important role in designing learning environments (Cheng, Chan, Tan & Cheng, 2009). Thus, it is critically important that students gain scientifically appropriate epistemological beliefs not only in their teaching disciplines but also in educational psychology. Pre-service teacher students in Austria are confronted with at least two different disciplines, requirements, and skills. Therefore, their epistemological beliefs might differ largely, because students are confronted with different approaches to research methodology.

Within this study, we designed a questionnaire to measure epistemological beliefs of pre-service teachers about the nature of educational psychology and test its validity within an introductory lecture in educational psychology. We assume that pre-service teachers have little or no prior

knowledge in psychology and have inappropriate mental models about what (educational) psychology is about and how research is done within this discipline. Subsequently we assume that using an intervention like a state-of-the-art introductory lecture might contribute to a) a change in insights how reliable and valid research is in this field and b) develop an appropriate representation about what educational psychology is about.

Method

Our questionnaire comprises the following seven subscales: *Scholarly Standard Practice* (4 items, *Cronbach's Alpha* = 0.73), *Relevance of the Discipline* for in-service practice (4 items; *Cronbach's Alpha* = 0.79), *Scientific Quality* (2 items; *Cronbach's Alpha* = 0.95), *Usefulness* for in-service teaching (4 items; *Cronbach's Alpha* = 0.91), *Source of Knowing* (5 items; *Cronbach's Alpha* = 0.84), *Certainty of Knowledge* (6 items; *Cronbach's Alpha* = 0.83), and *Mandatory Character of the Course* (3 items; *Cronbach's Alpha* = 0.67). All items were as 5-point Likert scales (from "strongly disagree" to "strongly agree"). Both subscales *Source of Knowing* and *Certainty of Knowledge* were taken from Urhahne's and Hopf's (2004) German translation of Conley's (2004) questionnaire.

In addition, participants had to select from a list of 26 topics out of the field of psychology in general those concepts which are core topics within the field of educational psychology or not.

Data sources

Participants were 82 pre-service teacher students (51 female, 31 male, mean age=24.27; SD=8.29) at the University of Salzburg (Austria). All participants were attending an introductory lecture in educational psychology. Participants were asked to fill in the questionnaire at the first lecture. The same questionnaire was applied 12 weeks later as post-test.

Results

Descriptive statistics reveal that all subscales except *Mandatory Character of the Course* showed an increase from pre- to post-test.

Inference statistical analyses (between-subjects comparisons) revealed for two-sided testing and after Bonferroni-Holmes adjustment significant differences from pre- to post test in subscales *Scholarly Standard Practice* (d = .36), *Scientific Quality* (d = .40), *Usefulness* (d = .40), and *Mandatory Character of the Course* (d = .32). No significant findings were found regarding the scales *Relevance of the Discipline*, *Source of Knowing*, and *Certainty of Knowledge*.

Test statistics regarding *Content Assessment* revealed that in post-test significantly more topics genuine to educational psychology were identified than in the pre-test (d = .40). The difference in correct identification of topics that are not genuine to the field was not statistically significant.

Scientific significance

Taken together results show that the developed instrument is reliable and valid. We found that students' beliefs became more ambitious regarding the subscales *Scholarly Standard Practice, Scientific Quality* and *Usefulness,* but there are still some misconceptions about the nature of educational psychology. Further research as well as interdisciplinary approaches are needed to foster pre-service teachers' epistemological beliefs.

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Changing psychology students' epistemic beliefs through "resolvable controversies": Evidence from two studies.

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An intervention concept to foster psychology students' epistemic beliefs (beliefs about the nature of knowledge and knowing) is presented. The concept is based on a multiple-texts approach. Students were presented short texts containing controversial scientific evidence on gender stereotyping in schools. In contrast to more "traditional" approaches using controversial evidence, all contradictions may be resolved by identifying the contextual factors that a certain type of stereotype discrimination occurs in ("resolvable controversies"). We expected this approach to reduce absolute beliefs (knowledge as certain "facts") and multiplistic beliefs (knowledge as subjective "opinions") and to foster evaluativism knowledge as more or less objective/subjective, depending on the issue in question and its context). The intervention concept was tested in two field studies (N=68 and N=153 psychology undergraduates), of whom one employed a pre-post 3*2 design (3 intervention groups, 2 measurement points) and the other one a simple pre-post design. In sum, it proved suitable in reducing absolute and multiplistic beliefs as well as in fostering evaluativism.

Extended Summary

Objectives

Knowledge in psychology is ill-defined (Muis, Bendixen, & Haerle, 2006). Integrating conflicting claims and weighing scientific evidence is therefore vitally important for anyone who gets in touch with psychological findings and theories. This poses a significant challenge especially to undergraduate psychology students, and failing to do so might lead to students developing beliefs of psychological knowledge as subjective, vague and obscure (Rosman, Mayer, Kerwer, & Krampen, 2017). Research on epistemic beliefs (i.e., cognitions about the nature of knowledge and knowing) has termed such beliefs *multiplistic* beliefs. Multiplistic beliefs have been shown to impair learning (e.g., Rosman, Peter, Mayer, & Krampen, 2016), while beliefs relating to the need for an evaluation and integration of scientific claims (so-called evaluativistic beliefs) are usually seen as positively affecting learning (Kuhn & Weinstock, 2002). In the present paper, we present an intervention concept aiming at reducing multiplistic beliefs (knowledge as subjective "opinions") and absolute beliefs (knowledge as objective "facts"), while, at the same time, fostering evaluativism (knowledge as more or less objective/subjective, depending on the issue in question and its context).

Theoretical framework

According to the Bendixen and Rule's (2004) process model, epistemic doubt (i.e., cognitive incongruity that arises when individuals recognise a dissonance between existing beliefs and new experiences) constitutes a driving force for epistemic change. We therefore designed an intervention aiming at evoking epistemic doubt regarding both absolutism and multiplism *and* supporting students to resolve this doubt by adopting an evaluativistic stance. This might be accomplished by first present-

ing scientific controversies and by subsequently instructing individuals to "resolve" these controversies (e.g., by weighing and evaluating evidence or searching for moderators). In fact, in terms of Bendixen and Rule's (2004) model, resolving controversies is incongruent with both absolute beliefs (an absolutist would neglect the existence of controversies) and multiplistic beliefs (a multiplist would neglect the possibility of "resolving" controversies).

Intervention technique

To test our ideas, we designed 18 text snippets describing fictitious and apparently contradicting studies on gender stereotyping of school teachers. The snippets were based on the idea that neither girls nor boys are *generally* disadvantaged but that gender discrimination depends on moderating factors (e.g., varies over different subject matters). To allow students to resolve the controversies, each text included specific cues pertaining to the moderating factors. For example, a snippet suggesting that girls receive poorer grades included a cue that physics grades were assessed. After reading, students were asked to write a short essay based on these texts.

Data sources

Two evaluation studies were conducted. Study 1 (*N* = 68 psychology undergraduates) used a pre-post 3*2 design (3 intervention groups with differing writing instructions, 2 measurement points). Study 2 (*N* = 153 psychology undergraduates) used a simple pre-post design and included measurements on factors potentially moderating intervention efficacy. Epistemic beliefs were measured by adaptations of established questionnaires.

Results

In Study 1, the intervention proved suitable in significantly reducing absolutism and fostering evaluativism as well as justification by multiple sources (a component of evaluativism). No significant effects on multiplism were found. In Study 2, significant effects on all three dependent variables (reduction in absolutism, reduction in multiplism, increase in evaluativism) were found.

Significance of the work

In sum, our data show that the presentation of resolvable controversies is well-suited to reduce absolutism and multiplism through an increase in evaluativism. They also show that confrontations with inconsistent findings, which are frequent in psychology, do not necessarily lead to higher multiplism: If the inconsistencies are resolvable, multiplism even seems to decrease. With regard to practical implications, our findings imply that lecturers should facilitate knowledge integration of learners. Moreover, curriculum designers should place emphasis on research methods since weighing and integrating evidence often requires evaluations of study quality.

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Building scientific literacy: Fake (Science) news in the classroom.

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Political fake (and misleading) news gets a lot of press, but science fake (and misleading) stories are just as dangerous and are increasingly an obstacle to the development of psychologically literate citizens. In part because social media are great equalizers, popularity rather than accuracy drives what we encounter, what we are likely to choose to read, and, in many cases, what we believe. As instructors, we can learn from research in cognitive, social, and philosophical psychology on why both fake news and, relatedly, real news that is light on science (i.e., "clickbait") are both compelling and divisive. We can also learn how we can help students build the "need for cognition" that drives us to enjoy thinking critically and scientifically about information. With these research literatures as a base, instructors can develop lessons about critical thinking to teach students to differentiate among good, questionable, and fake sources of information about psychological science. In our classrooms, we can harness "real news" to teach real-world applications of psychology, often in global and multicultural contexts. But we also can harness "fake news" to teach the critical thinking skills that help students evaluate the information we all encounter.

Extended Summary

Objectives or purposes
Political "fake news" is the focus of much attention, but its counterpart, fake (and misleading) scientific news, is also dangerous; many people fall prey to scientific misinformation. My first objective is to present an overview of research on why we so readily believe problematic scientific information and how we can overcome natural biases. My second objective is to build on these findings by introducing a pedagogical tool to teach students how to approach information from the perspective of psychological science.

Perspective(s) or theoretical framework
Several theoretical perspectives underlie this work. First, the research on why people believe fake news comes from several areas of psychology, including cognitive psychology (e.g., Frost et al., 2015) and philosophical psychology (e.g., Boudry, et al., 2015). Much of the research on why people are able to overcome our natural biasing tendencies comes from work on "need for cognition" (e.g., Sinatra et al., 2014). These frameworks will guide the discussion of the problem, possible solutions, and teaching tools.

Methods, techniques, or modes of inquiry
The proposed paper combines a review of relevant research and the introduction of a specific pedagogical tool. I also will discuss evidence for the effectiveness of that tool.

Data sources, evidence, objects, or materials

In the U.S., fake science news has existed at least since a widely believed 1835 news series claiming life on the moon, including unicorns and talking bat-like men (Goodman, 2010). Modern uncritical acceptance of information has also been widely documented; for example, the Stanford History Education Group studied students' susceptibility to misinformation and found shocking lapses of critical thinking across educational levels (2016).

Several classroom techniques aim to help students critique information. I will introduce one, the CRAAP test, which helps students question a source's currency, relevance, authority, accuracy, and purpose (Blakeslee, 2004). There are multiple variations on the CRAAP test, including this example: http://legacy.juniata.edu/services/library/instruction/handouts/craap_worksheet.pdf I will discuss the use of the CRAAP test in the classroom and as a homework assignment across the psychology curriculum.

Results and/or substantiated conclusions or warrants for arguments/point of view

Critics of the CRAAP believe that it is too simplistic (Burkholder, 2010). But the model has more fans than detractors. It was described as "the most concise, flexible, and memorable evaluation tool of the series of checklist tests that have been proposed since the late 1990s" (Wichowski & Kohl, 2012). Some argue that we naturally use heuristics when we evaluate sources, and the CRAAP test might guide our heuristics to more accurate ends (Metzger, Flanagin, & Medders, 2010). Moreover, the CRAAP test is eminently practical – so easy to use that ten-year-old students have used it to evaluate sources about the mythical creature, Big Foot (Knott & Szabo, 2013). Proponents also emphasize that the value of the CRAAP test is in applying it in spirit rather than with rigid adherence to the criteria (Wichowski, & Kohl, 2012).

Scientific or scholarly significance of the study or work

In the current climate of misinformation, it is important to combine research, both on why misleading scientific information is so compelling and how we can inoculate students against natural bias, with practical pedagogical tools. In my paper, I aim to provide examples of concrete classroom activities aimed at increasingly psychological scientific literacy that are built on a foundation of research.

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Constructive alignment in the field of educational psychology: Development and application of a questionnaire for assessing constructive alignment.

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In academic teaching, there are a multitude of various formats of courses. Moreover, there is a high degree of heterogeneity in exam formats. In the fields of didactics, the construct "Constructive Alignment" (CA) relates to the relationship between teaching goals, (domain-specific) didactic methods and examination modalities. To assess this construct, a questionnaire has been developed. The objective was to create a questionnaire sufficiently sensitive to measure the balance between a course of study's content, its methods and examinations. In addition, the questionnaire was analyzed with regard to course evaluation. Within an introductory lecture in Educational Psychology and a total of 129 students the relationship between CA and course evaluation has been examined. Results reveal that overall course evaluation can be predicted by the match between course objectives and instructional methods while other course evaluation factors failed here as predictors. With a high internal consistency, the instrument provides an alternative for traditional course evaluation instruments.

Extended Summary

Objectives
The objective of this study was to develop a questionnaire for the assessment of Constructive Alignment (CA) and to analyze how different aspects of CA contribute to quality of teaching within an introductory course in Educational Psychology.

Theoretical framework
The design of learning environments according to professional criteria is a central purpose of Instructional Design (Zumbach, 2010). Apart from analyzing possible learning objectives and competences to be acquired, careful consideration of teacher profiles, available resources and a detailed analysis of teaching contents as well as corresponding didactic methods and media are necessary (Schott, 1991).
CA is a concept applicable on the definition of good teaching independent of academic discipline or content (Biggs, 1996). The concept is oriented towards three core issues: learning outcomes, teaching and learning methods and design of exams. The model of CA serves for quality assurance in teaching (Baumert & May, 2013).
The scientific evaluation of teaching poses a relevant planning and decision support regarding future range of courses (Braun & Gusy, 2006). In this study, we designed an instrument to measure the three dimensions of CA in an introductory class in Educational Psychology and to analyze how CA-dimensions are related to course evaluation.

Method
Our questionnaire comprises the following four subscales; the first three scales refer directly to assess CA and cover: the fit between *teaching methods and content* (5 items*, Cronbach's Alpha =.75; e.g. „teaching methods are adapted to an individual courses' content and teaching goals");* the fit

between *teaching goals and exams* (5 items*, Cronbach's Alpha =.75; e.g. „the courses' content and teaching goals refer to the relevant examination subjects"); the fit between* *exams and methods* (5 items*, Cronbach's Alpha =.76; e.g. „even if teaching methods differ, exams guarantee constant structure"*) and the *flexibility in adjusting teaching methods* (4 items, Cronbach's Alpha =.82; e.g. "the teacher used instructional methods in a flexible manner"). In addition, a short scale regarding teaching evaluation by Zumbach et. al. (2007) included 15 items with the dimensions *form and structure (4 items, Cronbach's Alpha = .76), teacher characteristics (4 items, Cronbach's Alpha = .80), scope and relevance (3 items, Cronbach's Alpha = .44)* and *learning success (3 items, Cronbach's Alpha = .76).* All items were as 5-point Likert scales (from 1 "*does not apply at all*" to 5 "*fully applies*"). A final item assessed the overall evaluation of the course by using a grade system between 1 (very good) and 5 (very poor).

Data sources
The questionnaires were applied on voluntary base at the end of an introductory lecture into educational psychology right after the written exam. A total of 129 students (32 male, 96 females, mean age = 23.02; *SD*=4.60) of the University of Salzburg took part. All participants were teacher students.

Results
Descriptive data reveals that almost all subscales had considerably moderate to high scores (see Figure 1). Thus, it seems that within this introductory course the method (mostly teacher directed presentations), the objectives (to get an introductory overview about Educational Psychology), and the written exam (multiple-select questions and short open questions) seem to be well synchronized according to CA.
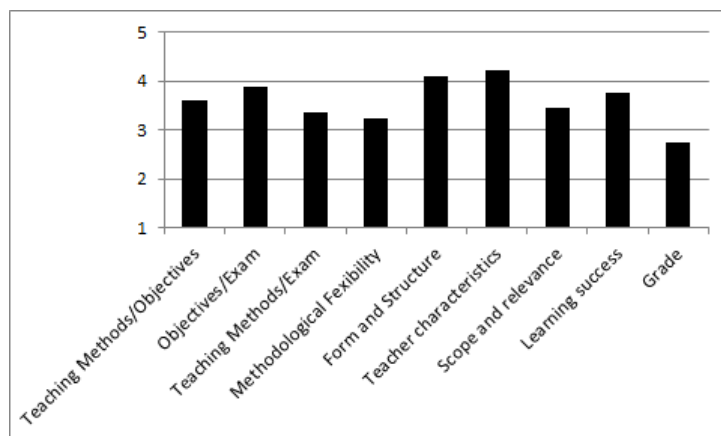

Figure 1: Descriptive results.

In order to analyze how CA and other factors contribute here to the overall grade given by students for this course, a regression analysis has been conducted. Independent variables were all subscales as assessed with the instruments described above. Dependent variable was the overall grade. A stepwise regression model revealed a variance explanation of 15 % by the predictor *fit between objectives and teaching methods* (R^2 = .15, $F_{(1,108)}$ = 18.35, p < .001). All other variables have been excluded from the model due to non-significant contribution to the regression model.

Scientific significance
Taken together, findings show that the instrument developed to assess CA shows acceptable values regarding internal consistency. The study reveals that the overall evaluation of students towards courses might be explained not only by traditional course characteristics as assessed in most course valuation instruments. Here, the matching between course objectives and teaching method is the

only significant predictor on students' satisfaction with the course. It has to be acknowledged that the findings are limited due to the nature of the course, which was a large introduction lecture. Thus, change in instructional methods was rather limited. Nevertheless, students rated the course quite acceptable. Further research has to test whether the designed instrument is also applicable within other Psychology courses and within other domains.

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Students' Evaluations of Teaching are associated with the subjective likeability of teachers.

Daniela Feistauer[1] & Tobias Richter[2]

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Among university teachers, it is common to doubt the validity of students' evaluations of teaching (SET) as an instrument to measure teaching quality. One potential threat to their validity is that SETs might be confounded with teachers' likability. To test whether likability has an effect on SETs, we examined the association between the global rating of teacher performance in SETs and individual students' ratings of the likability of teachers. Likability is defined here as a positive attitude that students hold towards the teacher and was measured with one item included in the evaluation questionnaire. Separate cross-classified multilevel analyses for seminars and lectures revealed a significant fixed effect of likability on the global rating of teacher performance. These results indicate a strong relationship between likability and the global rating of teacher performance in SETs. Considering that likability bears no conceptual relationship to teaching quality, this finding points to a potential threat to the validity of SETs. In future research, the underlying causality of this relationship needs to be disentangled by assessing likability with a multi-item scale before the course starts.

Extended Summary:

Theoretical background

Among university teachers, it is common to doubt the validity of students' evaluations of teaching (SET) as an instrument to measure teaching quality (e.g., Greenwald, 1997). In particular, these evaluations are often regarded as "happy sheets" (e.g., Earley & Porritt, 2014) or popularity contests (Dziuban & Moskal, 2011) rather than indicators of teaching quality. To test whether and to what extent these qualms are justified, we examined the association between the global rating of teacher performance in SETs and the likability that individual students refer to a teacher. Likability is defined here as a positive attitude that students hold towards the teacher. It includes the facets perceived similarity, credibility, and attraction (Frymier, 1994). We investigated how including likability as predictor in cross-classified multilevel models (Baayen, Davidson, & Bates, 2008) with the levels of student and teacher reduced different variance components of SETs. If introducing the fixed effect of likability considerably reduces the variance due to teachers compared to a null model (i.e., a model with no predictors but only random effects), this may be interpreted as a validity threat for SETs.

Method

Analyses were based on data from 952 online evaluations (Staufenbiel, 2000) provided by 577 students. They rated 14 lectures taught by 8 teachers and 22 seminars taught by 13 teachers. The courses were taught in the BSc/MSc psychology programs and in psychology courses for teacher students at the University of Kassel. Likability was measured with the item "How likable do you find the teacher?" at the end of the evaluation questionnaire. Because of the different course formats of lectures and seminars, we ran separate cross-classified multilevel analyses (mixed models with crossed random effects, Baayen et al., 2008) that allow separating variance components due to student, teacher, and the interaction of student and teacher (Feistauer & Richter, 2016).

Results and Discussion

Results in both course types showed a significant fixed effect of likability on the global rating of teacher performance. The model fit increased as a consequence of including the fixed effect. Compared to the null model, the variance of teachers decreased by 34% in seminars and by 39% in lectures. The variance component interaction of student and teacher could be only found in lectures and decreased by 55%.

These results indicate a strong relationship between likability and the global rating of teacher performance in SETs (see also Delucchi, 2000). Considering that likability bears no conceptual relationship to teaching quality (especially not when it is operationally defined as the degree to which an individual student finds the teacher likable), this finding points to a potential threat to the validity of SETs.

As a next step, the underlying causality of the relationship needs to be disentangled. In the present study, both assessments in this study were measured at the same time. Thus, it cannot be concluded whether (and to what extent) likability had an impact on the global rating of teaching performance or whether (and to what extent) teaching performance had an impact on likability. In principle, it might be the case that a high-quality teaching influences both likability and SETs. In future research, we plan to assess likability at the beginning of a course when the students were able to form an initial impression of the teachers but cannot yet evaluate their teaching performance. Furthermore, likability will be assessed with a multi-item scale (Reysen, 2005) to increase its reliability.

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Progress Test Psychology (PTP) and quality management of the bachelor program at Witten/Herdecke University.

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The suitability of the Progress Test Psychology (PTP) as an instrument for quality assurance across the six semesters of the bachelor's degree "Psychology and Psychotherapy" at Witten/Herdecke University (W/HU) will be examined. Progress tests are generated with a blueprint, which depicts the existing curriculum of the study program. Against this background, the comprehensive tests are aimed at two objectives: students receive individual feedback on their performance and teachers can evaluate their educational concepts. The psychological knowledge of the students is recorded in the PTP with 100 true-false items at the degree level, to be answered with confidence (sure/uncertain/don't know). The construct validity as well as the internal consistency of the PTP are examined in cross- and longitudinal-section analyses. Results from four test periods at the beginning of each semester (April 2015 to October 2016) are available. The internal consistency was good to very good. The cross-sectional analyses showed an increase of the test value across semesters and a decline in the "don't know"-responses indicating the expected progress of psychological knowledge. The results strongly demonstrate the potential of the PTP and its usefulness in the quality assurance of the course of studies.

Extended Summary:

Objectives or purposes

The suitability of the Progress Test Psychology (PTP) as an instrument for quality assurance across the six semesters of the bachelor's degree "Psychology and Psychotherapy" at Witten/Herdecke University (W/HU) will be examined. The course, which was started in the winter semester 2012/2013, is accompanied by the PTP and has been evaluated since its development and piloting in December 2014.

Perspective(s) or theoretical framework

Progress tests are generated with a blueprint, which depicts the existing curriculum of the study program. A carefully designed blueprint is an important aspect in addition to the review process by qualified psychologists (primarily the teachers involved in the study program) to ensure the content validity of the PTP (Plessas, 2017). Against this background, the purpose of the comprehensive tests is that students receive individual feedback on their performance, and that the teachers can evaluate their educational concepts as well as their students learning success. The modular curriculum of the bachelor's degree course "Psychology and Psychotherapy" at W/HU consists of three modules on research methods, six modules on the basics of psychology (General, Biological, Social, Personality, Developmental and Educational Psychology) and four modules on Clinical Psychology (Zupanic et al., 2016).

Methods, techniques, or modes of inquiry

The psychological knowledge of the students is recorded in the PTP with 100 true-false items at the degree level, to be answered with confidence (sure/uncertain/don't know). The PTP test value is the number of correct minus incorrect answers. Confidence-weighting involves deliberate reflections of the students through their own "non-knowledge" and thus provides additional information about the success of learning (Dutke & Barenberg, 2015). The construct validity (Kruskal-Wallis tests, Friedman and Wilcoxon tests) as well as the internal consistency (Cronbach's α, Reliability analyses) of the PTP are examined in cross- and longitudinal-section analyses.

Data sources, evidence, objects, or materials

Results from four test periods at the beginning of each semester are available. The assessment was carried out with the students in April 2015 (PTP 01: N = 155), in October 2015 (PTP 02: N = 135), in April 2016 (PTP 03: N = 140) and in October 2016 (PTP 04: N = 159).

Results and/or substantiated conclusions or warrants for arguments/point of view

In the cross-sectional analyses, the test values increased across semesters for

PTP 01 test value of 18,1 ± 13,0 (Sem. 1) to 66,8 ± 23,4 (Sem. 6),
PTP 02 test value of 15,5 ± 11,8 (Sem. 1) to 63,9 ± 24,7 (Sem. 4),
PTP 03 test value of 5,3 ± 9,2 (Sem. 1) to 53,8 ± 17,8 (Sem. 6) and
PTP 04 test value of 13,9 ± 9,9 (Sem. 1) to 63,4 ± 19,1 (Sem. 6),

and "don't know"-responses decreased for

PTP 01 "don't know"-response of 76,4 ± 16,5 (Sem. 1) to 36,4 ± 18,7 (Sem. 6),
PTP 02 "don't know"-response of 78,5 ± 11,6 (Sem. 1) to 32,4 ± 14,0 (Sem. 4),
PTP 03 "don't know"-response of 74,0 ± 11,1 (Sem. 1) to 30,5 ± 10,9 (Sem. 6) and
PTP 04 "don't know"-response of 75,4 ± 12,8 (Sem. 1) to 31,0 ± 14,1 (Sem. 6).

The examination of the differences between the semesters with Kruskal-Wallis tests showed significant results for the PTP 01 - PTP 04 (p <0.001 for all comparisons). In the longitudinal section analyses, significant differences in the test values and in confidence weighting (p <0.001 for all compari-

sons) were also observed. The internal consistency of PTP showed a minimum for PTP 03 with α = 0,83 and a maximum for PTP 01 with α = 0,91 indicating good to very good reliability.

Scientific or scholarly significance of the study or work

The results strongly demonstrate the potential of the Progress Test Psychology and its usefulness in the quality assurance of the course of studies. At Witten/Herdecke University, a study with master students in their first semester is currently being carried out to collect robust data on the intended graduation level of PTP. In addition, embedding the PTP into a programmatic assessment program (Heenemann et al., 2017) is recommended. The advantages of the student's longitudinal monitoring and the repeated feedback of the acquired knowledge by the PTP can be used in this way.

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TUESDAY; 11:00 – 12:30
Paper Session 4
Skill provision in terms of future teaching contexts –
personal skills development
Chair: *Ines Deibl;* Room: SE 1.008/1.009

Effects of emotional activation on beliefs, attitudes and teaching intentions of pre-service teachers.

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Teacher beliefs can affect teaching behavior and students' learning gains (Buehl & Beck, 2015). Hence, the aim of our study was to explore if video-driven emotional activation is a promising approach to affect preservice teachers' beliefs, attitudes and teaching intentions in purposeful ways. There is some evidence that teacher beliefs can be affected by emotional experiences (Gill and Hardin, 2015). According to Ajzen (1991) the belief that a specific behavior will lead to certain outcomes affects the attitude and thus, the behavioral intention of that same behavior (effect chain). In order to test if emotional activation can cause changes in preservice teachers' beliefs and to examine if this change affects attitudes and teaching intention, we prepared two different video formats (65 minutes each) that both present student-centered teaching in a positive light. Through a video showing student-centered lessons we aimed to achieve higher emotional activation than through a video showing informal talks by scholars and teachers. This was confirmed by using a t-test. We also tested if higher emotional activation would lead to higher changes in beliefs which would in turn affect changes in attitudes and teaching intentions. This was verified by using structural equation modeling. We conclude that video-driven emotional activation might be a promising way to encourage student teachers to try teaching methods that proved to be effective by instructional research.

Extended Summary

The relevance of teacher beliefs is rooted in their impact on educators' behavior (Buehl & Beck, 2015) as well as on students' learning (Hattie, 2012). Hence, universities may attempt to more effectively change their preservice teachers' perspectives and teaching intentions. But how should concepts for teaching in higher education be designed to reach this goal? The aim of our study is to explore if video-driven emotional activation is a promising approach to affect teacher beliefs, attitudes and teaching intentions in purposeful ways.

The Theory of Planned Behavior (Ajzen, 1991) assumes that beliefs concerning whether a specific behavior will lead to certain outcomes affects the attitude and thus, the behavioral intention of that same behavior (effect chain). Furthermore teacher beliefs are assumed to be rather stable and resistant to reasoning (Kagan, 1992, Haney & McArthur, 2002). This may be especially true for beliefs concerning teaching behavior, because students entering university already have a long history of educational experiences. Nevertheless Gill and Hardin (2015) have summarized some empirical evidence to conclude that teacher beliefs can be affected by emotional experiences. Thus, the question is whether higher emotional activation while perceiving information about a certain learning topic will lead to greater changes in corresponding beliefs, attitudes and teaching intentions.

In order to explore this question, we prepared two different video formats (65 minutes each) that both present the topic of student-centered teaching in a positive light. This teaching style is characterized by student-autonomy, a variety of learning opportunities, individualization and peer cooperation. However, presenting a video showing concrete lessons in a student-centered style we aimed to

achieve higher emotional activation than through a video showing informal talks by scholars and teachers. Student teachers' beliefs, attitudes and teaching intentions (N = 118) where quantified using a questionnaire (Ajzen, 2006). This was done three weeks before the video-based intervention (lesson or informal talk videos) as well as immediately after the intervention. Changes in beliefs, attitudes and teaching intentions were calculated by subtracting pre from post measures. Emotional activation was assessed eight times during the intervention using the Affect Grid (Russel, Weiss, & Mendelsohn, 1989).

Research questions:

1. Does watching lesson videos lead to higher emotional activation than watching informal talk videos?
2. Does higher activation lead to a more positive change rate in beliefs?
3. Are higher changes in beliefs followed by a more positive transition in attitudes?
4. Do larger modifications in attitudes lead to a more positive change rate in teaching intentions?

Differences in emotional activation were analyzed by using a t-test (research question 1). In a second step the expected effect chain from beliefs and attitudes to teaching intentions (research questions 2, 3 and 4), was analyzed using structural equation modeling.

Results show that lesson videos lead to higher emotional activation than informal talk videos. Higher emotional activation in turn leads to more positive changes in beliefs. Furthermore, the expected affect chain from beliefs and attitudes to teaching intentions was also verified.

Our findings show that video-based emotional activation may be a promising tool in higher education to purposefully change preservice teachers' beliefs and teaching intentions. Thereby they might be encouraged to try teaching methods that proved to be effective by instructional research. Nevertheless, future studies should look into long term effects of video-driven emotional experiences. Further limitations of our study are discussed.

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Psychology in teacher training - Art therapy technique of collage as a tool to reflect on professional identity development.

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Psychology in teacher training is usually delivered in a two-fold manner – as a domain of expert knowledge on teaching and learning related psychological phenomena and as the domain that could provide impulses to personal and professional development. The study presents projective technique of collage that is used for mapping of anticipated professional roles of future teachers. Collage, both as a process and as a product, reflects on current status of student teachers' professional identity. This experience opens space for deepening the students' understanding of the profession as well as for further development of their professional identity. The paper summarizes this specific use of collage technique and describes also a typology of the professional identity collages of freshmen student teachers.

Extended Summary

Objectives or purposes
One of the aims of psychology teaching in teacher training programs is to facilitate the students' self-conceptualization as a teacher. Discovering teacher selves' Freese (2006) is possible through reflection and practice. When working with freshmen student teachers, the development of reflective skills and attitude is especially important. The collage technique combines work with metaphor and visual language. The aim of the paper is to summarize the experience with professional collage technique used for facilitation of professional identity development in freshmen student teachers.

Perspective(s) or theoretical framework
Professional identity stands according to Sachs (2005) at the core of profession. It provides a framework for constructing ideas of 'how to be', 'how to act' and 'how to understand' one's work and place in society. Teacher professional identity can neither be imposed on student teachers, nor it is anything stable. Instead, it is negotiated through experience and the sense that is made of that experience (Sachs, 2005). Making the sense of experience is highly influenced by tacit knowledge of the person. Tacit knowing, which covers among others intuition, insight, beliefs, mental models is highly personal, abstract and difficult to express. To avoid the difficulty and limitations of explicit expression, art- based visual mode of expression could be used. The technique of collage can be modified for different purposes (expression, communication, inquiry) and could be seen from three different perspectives, as a reflective process, as a form of elicitation (of expression), and as a way of conceptualization of ideas (Butler-Kisber & Poldma, 2010).

Methods, techniques, or modes of inquiry
The collage "I as a Teacher - all possible roles, views and perspectives" was used as a central task in a course dealing with professional identity.

Students were 65 freshmen studying teacher training program for at maximum two years, their empirical experience was limited to observation practice. The aim of the task was to open broader perspective on teacher profession. The students received detailed instruction how to proceed in creating a collage and were asked to provide verbal description of the depicted roles on the backside of the collage. In subsequent discussions the students could talk about the artefacts and also explore symbolic meaning embedded in their collages. When students agreed, verbal comments to collages and the artefacts were used for research purposes, afterwards. Two experienced art therapists analysed content (with respect to roles) and sorted the collages into subgroups based on similarity of expression patterns. This yielded several typical conceptions of these professional collages.

Data sources, evidence, objects, or materials
The sixty-five collages were analysed with respect to content, form and used metaphors. In the first step, we looked for specific roles that students associated in their collages with "being a teacher". We analysed also symbolic expressions of these roles and frequency of these roles within the sample. Next step of analysis was based on similarity sorting and searched for types of expression patterns. The patterns were described as non-exclusive, which meant that some collages could contain features typical for several types.

Results and/or substantiated conclusions or warrants for arguments/point of view
The analysis of the roles that students saw as associated with being a teacher yielded 11 main categories of roles, that had shown at least 30% prevalence within the sample; partnership and entertaining was the most prominent among them. The metaphors used to depict symbolic level of these roles were widely commented by students. The majority of collages showed characteristics typical for one or several of nine identified typical expression patterns. This typology is just rough and preliminary description of similarities emerging from student teachers' collages. The most important finding is that "I as a teacher" collage creation, and discussion on and interpretation of it provided valuable opportunity for reflection and meaning elaboration.

Scientific or scholarly significance of the study or work
Collage technique "I as a teacher" turned out to have good potential to stimulate reflection and professional identity development. At the same time, it yielded interesting data of student teachers' understanding and conception of their professional roles. It could be seen as a method of psychological inquiry in teacher education.

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Pre-service teachers' difficulties in solving classroom problems by aid of psychological knowledge: A comparison of beginning and advanced students.

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Teachers are required to solve authentic classroom problems on the grounds of educational and psychological theories and empirical evidence ("evidence-based reasoning"). Yet, they frequently rather rely on subjective theories and experiential knowledge when being confronted with such problems. We assume that teachers' problems regarding evidence-based reasoning are at least partially caused by deficits in their reasoning scripts. When being confronted with authentic pedagogical problems, experienced teachers optimally activate scripts that lead them to perform five activities: (1) identifying problems, (2) reconstructing problems, (3) building an explanatory model, (4) deriving goals of an intervention, and (5) selecting adequate actions. Helping future teachers to gradually build up such reasoning scripts is a task of university-level teacher education. Yet, little is known about how such scripts actually develop during teacher education. We therefore investigated to what extent beginning pre-service teachers' reasoning scripts differ from the reasoning scripts of more advanced pre-service teachers. More specifically, we looked at (a) the extent to which they engage in the aforementioned activities and (b) their ability to pursue these activities in the expected order while being confronted with authentic problems from educational practice. 339 student-teachers participated in an online-learning environment and analyzed problem cases of classroom instruction. Results showed that overall, pre-service teachers in both groups engaged in the five aforementioned activities to a similar extent. Yet, they differed regarding some of the specific activities (identifying problems; deriving goals) they pursued. Further, participants in both conditions only rarely showed the aforementioned activities in a systematic sequence.

Extended Summary

Objectives

Teachers often display difficulties in solving problems from educational practice on the basis of educational and psychological theories and related empirical evidence; instead they very often rely on experiential knowledge and subjective theories (Star & Strickland, 2008). This may at least partially be caused by deficient reasoning scripts (i.e. knowledge about what processes are required to solve educational problems in an evidence-based way). This study looks at how such scripts develop during teacher education.

Theoretical framework

Previous research has mainly looked at the extent to which deficits in teachers' evidence-based reasoning are caused by deficits in pedagogical-psychological knowledge and related empirical evidence (Star & Strickland, 2008). In contrast, we argue that teachers' deficits in solving authentic educational problems are at least partially also caused by deficits in how they approach such problems, which in turn is influenced by their reasoning scripts. These refer to a teacher's knowledge about what steps to take while solving an authentic educational problem (Schank, 1999). Based on models of professional vision (Sherin & van Es, 2009), we assume a proficient reasoning script to consist of five cognitive activities: (1) identifying problems, (2) reconstructing problems, (3) developing an explanatory model, (4) defining goals of an intervention, and (5) selecting adequate actions. Besides cognitive factors, also unfavourable motivation towards pedagogical-psychological research might be a reason for teachers not to engage in evidence-based reasoning (Parr & Timperley, 2008).

Little is known about the extent to which teacher education programmes support pre-service teachers' development of reasoning scripts. We thus compare the scripts of beginning teaching students

with those of advanced students who are at the end of their studies. We specifically investigate to what extent participants engage in the five aforementioned activities (RQ 1), and their ability to pursue these activities in the expected order (RQ 2). Finally, we investigate the role of pre-service teachers' interest in psychology for predicting script quality (RQ 3).

Method

In a 2-group cross-sectional design we investigated beginning (n=103; M_{Age}=20.67, SD_{Age}=2.60) and advanced (n=236; M_{Age}=22.59, SD_{Age}=2.58) pre-service teacher students who were asked to solve an authentic problem case of classroom instruction that was presented to them in an online learning environment. After performing their case analyses, participants were asked to name activities they engaged in during case analysis by selecting them from a list of activities and order them (Scheele & Groeben, 1988). On the basis of these data, the number, the type and the sequence of the activities engaged in was reconstructed. Last, students filled out a questionnaire regarding their interest in psychology (6 items, α=.78).

Results

Regarding RQ 1, results showed that overall, both groups engaged in activities congruent with our theoretical perspective to comparable amounts (F(1;334)=2.77, p=.10). Significant differences emerged regarding specific cognitive activities (F(5; 333)=3.54, p<.01, η^2=.05): beginning students reported to engage more often in problem identification, while advanced students reported more goal setting. Data indicated only limited agreement in the sequences of cognitive activities with our theoretical assumptions in both groups (RQ 2). No group differences were found (F(1;334)=1.75, p=.19).

With regard to RQ 3; students' level of interest in psychology predicted the number of outlined cognitive activities reported by the participants significantly positively (β=.21, t(335)=3.83, p<.01, R^2=.04). Similar effects were found for script sequence (β=.16, t(335)=2.91, p<.01, R^2=.03).

Scientific significance

Our investigation adds to previous findings that evidence-based reasoning is difficult for pre-service teachers. In addition to previous studies that mainly attributed deficits in (pre-service) teachers' evidence-based reasoning to a lack of pedagogical-psychological knowledge, our analyses reveal that such deficits may also stem from ill-developed reasoning scripts. Results further indicate a gradual shift in perspective from noticing problems to thinking about solutions for more advanced students. Increased proficiency in identifying problems due to experience could be the reason for this. Our analysis further shows that motivational factors need to be considered in addition to cognitive ones in research on evidence-based reasoning processes as they significantly predict their quality. Currently, cognitive activities are reconstructed through content analysis to validate the findings and move beyond self-report data.

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Paper Session 5

Skill provision in terms of future social or clinical context –
mental health professionals
Chair: *Viola Geiger*; Room: SE 1.006/1.007

Teaching psychopathology through film and memoir.

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While historically, psychology is viewed as a science with a quantitative foundation, critics have argued that the "human" component is often missing. Social scientists have asserted that many, if not most, of us find meaning and "make sense" of our lives through narratives or stories. Film, as a type of narrative, often addresses the personal, "human" dimension of psychology. Written memoir also conveys an individual's immediate subjective experience. First person written accounts of mental illness allow the reader to better understand the actual experience of someone with a psychiatric condition as well as their perceptions of psychotherapy, institutional, and biological treatments. In addition, both genres present individual "cases" that permit application of formal lecture and textbook information about psychopathology. Both feature films and memoir often portray psychological issues in a more immediate, experiential way than is possible in customary lecture-discussion and textbooks. "Abnormal Psychology in Film and Memoir" is a one semester course in which students view full-length feature films and read first-person accounts of mental illness. Content areas addressed include the process of mental health diagnosis, the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), differential diagnosis, as well as causes, and symptoms of common mental health conditions. In addition, the history of psychiatric hospitalization as well as contemporary issues in psychotherapy, including ethical dimensions, are also covered. The course also addresses controversies in the field including the impact that social and historical factors have on perceptions of mental illness. While the accuracy of film portrayals of specific diagnoses and treatment is often problematic, this issue can be used to provoke critical thinking. Student assessment of the course has been consistently positive. As an indirect indicator of their engagement, students also frequently recommend films for future use in the course.

Extended Summary

This paper will describe a recently developed upper -level undergraduate course "Abnormal Psychology in Film and Memoir." offered through Lake Superior State University's Honors Program. The class meets once per week for approximately three hours. Students view a full-length feature film that depicts (a) psychological disorder(s) and/or their treatment. Students are also assigned four to five memoirs of persons with mental illness or narrative accounts of treatment to read during the course. At each class meeting, prior to watching the film, there is a 25-30 minute lecture/discussion during which background information about the condition and //or treatment depicted by the film is covered. Students are also given the criteria from the *Diagnostic and Statistical Manual of Mental Disorders-5* ((DSM-5; American Psychiatric Association, 2013) for the diagnoses portrayed in the film. Immediately prior to the showing, students are given a list of 8-12 questions to consider. The questions serve as a set of topics to be explored in the post-film discussion (Searight & Saunders, 2015). The first section of the course focuses on specific diagnoses such as obsessive compulsive personality disorder in *As Good as It Gets*, autism in *Rain Man* and bipolar disorder in *Silver Linings Playbook*. In addition to highlighting symptoms portrayed in the films, the class discussion focuses on the accuracy

of these portrayals and the implications of distorted presentations of mental illness to the public. For example, the film, *Rain Man*, has contributed to the mistaken belief that savant skills are common in adults with autism.

The second half of the term focuses on portrayals of psychological treatment including hospital settings (e.g., *One Flew Over the Cuckoo's Nest*, *Girl Interrupted,* and *It's Kind of a Funny Story*) and psychotherapy (e.g. *Antwone Fisher*, *Good Will Hunting*, *Love and Mercy*). During this part of the course, students are reading Yalom's (2012) *Love's Executioner* describing the author's experience of providing psychotherapy. Ethical issues and the concept of boundaries are frequent discussion topics associated with these cinematic and literary works

Assignments include writing a film review in the style of the American Psychological Association's weekly book and film review, PsycCRITIQUES and comparing a film based upon a book with the book, itself. Students are directed to Wedding and Niemic's (2014) guide for a thorough list of possible films to review. For the book-film comparison, students have drawn from the film, *A Beautiful Mind,* and Nasar'a (1998) biography with the same title, *Girl Interrupted* in both literary (Kaysen, 2013) and cinematic forms, as well as the autobiographic novel, *It's Kind of a Funny Story*, which was made into a film by the same name.

The course has received positive evaluations and while originally intended to be offered every 2-3 years but because of student demand, is being offered close to annually.

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Importance of casual attributions, stigmatizing emotions and community mental health ideology on social distance from people with mental illness in Lithuanian and US future mental health professionals.

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This study is aimed to evaluate importance of cognitive, affective and social elements of stigmatizing beliefs in predicting social distance from mentally ill in two samples of psychology, counseling and social work students from US and Lithuania. Self-reported questionnaire consisted of Social Distance Scale, Balanced Inventory of Desirable Responding, demographic information and questions about familiarity with mental illness, three emotional reactions to mentally ill (fear, pity and anger), four cognitive beliefs related to mental illness, and Community mental health ideology subscale from Community attitudes towards mentally ill scale. 1017 future mental health professionals (counselors,

psychologist and social workers; 304 from the US and 713 from Lithuania), from the first year of bachelor studies to the PhD studies, participated in this cross-sectional survey. The results revealed that all three aspects of stigma of mental illness contributed significantly predicting social distance from people with mental illness in both countries. Fear and support to the community integration of mentally ill were the most important predictors. Cultural differences were also found, showing that familiarity with mental illness was important for the US students and gender was important for the Lithuanian students predicting social distance from mentally ill. Current results illustrate importance of affective dimension of stigmatizing beliefs in predicting social distance. Thus more attention should be paid to student's emotional reactions during professional education. Data also support importance of community mental ideology in predicting social distance. Educational strategies bringing more community experience might have valuable impact reducing students stigmatizing beliefs.

Extended Summary

Objectives
This study aimed to evaluate importance of cognitive, affective and social elements of stigmatizing beliefs in predicting social distance from mentally ill in two samples of psychology, counseling and social work students from US and Lithuania.

Theoretical framework
Stigma of mental illness (SMI) is a significant barrier for quality of life and adequate treatment of people with mental illness (PMI). Mental health professionals attitudes towards PMI can also perpetuate stigma and create barriers to receive adequate treatment (Overton & Medina, 2008). University curriculum intend not only to develop knowledge and skills of future professionals, but also to form appropriate attitudes towards their clients which would help while fulfilling their work roles and obligations. Thus, more attention should be paid to students attitudes towards PMI during process of professional education, as they are future mental health professionals and are still flexible recipients of educational interventions.
SMI is a multidimensional construct, covering elements of labeling, stereotyping, separation as well as emotional reactions, false beliefs about causes of mental illness, controllability of the disease and treatment prognoses (Link, Yang, Phelan, & Collins, 2004). This study looks at how different aspects of SMI are related to behavioral intentions to interact with PMI of future mental health professionals.

Method
Social distance was measured using 9-item scale created for this study based on Bogardus Social Distance scale. Three emotional reactions to mental illness (fear, pity and anger) were measured using 13 items created for this research, asking participants to share their emotional reactions to PMI. Cognitive beliefs related to mental illness – personal control, external control, stability of mental illness and locus of causality of mental illness – were evaluated using four single questions on 9-point scale between two opposite beliefs (e.g. mental illness is permanent / temporary). Support of community integration was evaluated using 10-items Community mental health ideology subscale from the Community attitudes towards the mentally ill questionnaire (Taylor & Dear, 1981).
Questions related to the age, gender, year of studies and familiarity with mental illness were also included in this survey. Balanced Inventory of Desirable Responding (BIDR) (Paulhus, 1991) was used in order to control response bias of the participants and included self-deception and impression management subscales.

Data sources

1017 future mental health professionals (counselors, psychologist and social workers), from the first year of bachelor studies to the PhD studies, participated in the cross-sectional survey in Lithuania (N=713) and US (N=304).

Results and conclusions

Cross-country comparison revealed that Lithuanian and US students do not differ in community mental health ideology, however Lithuanian students expressed more fear, pity and anger towards PMI, and desired for more social distance comparing to USA students.

Hierarchical regression analysis in US and Lithuania subsamples showed that all aspects of SMI (cognitive, affective and social) contributed significantly predicting social distance from PMI. Higher social distance in the US students' sample was predicted by more expressed fear and pity, less support to the community integration of mentally ill and stronger belief that external control of mental illness is not possible. Social distance was also related to lower familiarity with mental illness. Year of studies, gender and age did not predict social distance for the US students.

Higher social distance in the Lithuania students' sample was predicted only by higher level of fear and less support to the community integration of mentally ill. Contrary to the US sample, familiarity with mental illness was not important predictor of social distance, but higher scores of impression management and gender (being male) were related to less social distance in this subsample.

Scientific or scholarly significance of the study

Current results illustrate importance of affective dimension of stigmatizing beliefs in predicting social distance from PMI, thus during professional education more attention should be paid to student's emotional reactions. Our data also support importance of community mental ideology in predicting social distance. Both mental health professionals and students frequently lack contacts with mentally ill successfully living in the community. Educational strategies bringing more community experience might have valuable impact reducing students stigmatizing beliefs.

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Learning in a clinical setting - Innovative methods in teaching practical skills to psychology students.

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In the course of the transition from Diploma to Bachelor and Masters programs and in regard to the discussion about a direct study program to the state examination of psychotherapists, the political side increasingly demands more practical parts in psychology education (Bundesregierung, 2015, Bundesministerium für Gesundheit, 2016). Even a large proportion of the students feel that they are not sufficiently prepared for their professional life (Schneller & Schneider, 2004). While in medicine, innovative and practice-oriented teaching-learning forms have been developed and established (e.g. Burger, 2006; Kahlke et al. 2000; Steiner et al. 2003), this has largely been lacking for psychology education (e.g. Bergold, 2008; Kanning, 2007). Since April 2015, a refocused psychology study program has been offered at the Brandenburg Medical School Theodor Fontane, which includes a weekly clinical day from the first semester on, and a weekly TRIC seminar (teamwork, reflection, interaction, communication). In the course of the regular care of in-patients of the university hospitals, students get to know to the different wards (e.g. psychiatry, psychosomatics, gynecology and emergency medicine) and reflect on clinical-psychological competences, their own role in interaction with doctors, nurses, patients and the patients' relatives. They are individually accompanied by mentors. According to our knowledge, this is a novelty in the education of psychologists. Our experiences so far, as well as the feedback of the students and cooperating doctors, are very positive. The teaching-learning and corresponding examination formats are further evaluated.

Extended Summary

Since 1999, the German diploma studies program in Psychology has been converted to a Bachelor's and Master's program. This resulted in the necessity that already the bachelor's degree should be professionally qualifying (Bundesregierung, 2015). This faces psychology education with challenges, but also allows for a new practice-oriented curricular formation of the studies. Also, the training of psychological psychotherapists in a direct study program is also under discussion (Bundespsycho-therapeutenkammer, 2014). From the students' side, it has also been argued that, due to the lack of practical experience during their studies, they feel insufficiently prepared for their professional life (Schneller & Schneider, 2004). Overall, there is a tendency to orientate the psychological education more towards the medical education. This development includes, on the one hand, a stronger focus on the work with patients and on the other hand the inclusion of the daily hospital routines into the studies. In the medical education, very innovative forms of teaching have been introduced (e.g. Burger, 2006; Kahlke et al. 2000; Steiner et al. 2003). This development has, so far, hardly been accepted in psychology (e.g. Bergold, 2008; Kanning et al., 2007). In the Bachelor's program in Psychology at the Brandenburg Medical School (MHB), a part of the teaching, from the first semester on, is already taking place within the framework of the basic and regular medical care of in-patients in the university hospitals. To the best of our knowledge, this is a novelty in the education of psychologists. Students get to know to the work on the different wards from the beginning of their studies. They reflect on clinical-psychological skills, their own role in the interaction with doctors, nurses, patients and the patients' relatives on various psychiatric, psychosomatic and somatic wards, in order to gain the widest possible insight into the structures of the wards, medical specialties and disease patterns. They are individually supervised and accompanied by a mentor. The students are present during the medical visits, gain insights into nursing activities and organizational processes, accompany patient history discussions, as well as individual and group therapies. From the second semester on, own

contact with patients is increasingly being added, with the aim of testing the competences learned in conversations and of experiencing different interaction processes with patients. In TRIK seminars (Teamwork, Reflection, Interaction & Communication), which take place during the whole studies program, the students reflect their experiences from the clinical day and are taught to practice psychotherapeutic basic competences in exercises. In addition to basic psychological communication skills, the self-experience, for example through role playing, plays an important role. To learn the dealing with patients in counseling, crisis and therapy situations, the students practice competences in conversation, respect, empathy and detachment, exploration, problem analysis, diagnostic and therapeutic interactions as well as the handling of intervention techniques, in supervised interactions. The OSCE method (Objective Structured Clinical Examination) is used as the examination format. In contrast to classical multiple-choice tests, no purely factual knowledge is examined, but the clinical competence in practice-oriented situations. During the exam, different practical tasks are given in different stations, whereby the students are evaluated by examiners in their task solving performances (see Chenot & Ehrhardt., 2003). Our experiences as well as the feedback of the students and cooperating medical wards are very positive. At present, the examination and teaching-learning formats are further evaluated.

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Paper Session 6

Ways and means of enhancing students' learning activity

Confident and correct? Written reflection tasks in a lecture.

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Based on research showing knowledge and confidence enhancement by problem-based reflections, we investigated if shorter, less intensive and more generic reflections would have the same effects. In addition, we analyzed effects of autonomy, that is, effects of choosing the contents on which to reflect on, regarding both one's knowledge and confidence in one's answers.

During a one-semester lecture, N = 364 Master of Education students completed short written reflections on six sessions, three of which were mandatory to reflect on and three of which could be chosen by the students. The students also completed two questionnaires with confidence-weighted true-false items on the whole lecture content at the beginning (t1) and at the end of the semester (t2).

Analyses of variance, conducted on knowledge and on confidence separately, yielded interaction effects of time by reflection, indicating that knowledge was not enhanced by the reflections but that the confidence was. Similar analyses of variance on the knowledge and confidence data for only the reflected content yielded interactions of time by autonomy, indicating that autonomy enhanced the knowledge gain but did not enhance the confidence gain.

The data indicate that the generation of knowledge and of confidence follows different mechanisms. Knowledge seems only to be enhanced by short written reflections if students could choose the content by themselves. The confidence in knowledge, however, seems to be enhanced by reflections that did not enhance knowledge. This may be interpreted as an instance of heuristic decision making. Other possible mechanisms and consequences will be discussed.

Extended Summary

In this paper, we investigated the effect of writing short reflections on the lecture content on students' cognitive learning gains and the metacognitive confidence in their knowledge. Recent research by Barenberg, Seifried, Spinath and Dutke (2016) has shown that problem-based reflections can enhance students' knowledge as well as their confidence in the correctness of their knowledge. Thus, we investigated if this enhancement can also be triggered by shorter and more generic reflections (Research Question 1). In addition, we investigated the effect of being free to choose the reflection content. Based on self-determination theory that stresses the importance of autonomy for learning (e.g., Ryan & Deci, 2000), we investigated if knowledge and confidence differ between reflections on mandatory content and content chosen voluntarily (Research Question 2).

A sample of *N* = 364 students in a Master of Education program took part in a lecture on educational psychology. For six of the lecture sessions, students reflected the content in a short written form (e.g., "What was the most important content?"). The sessions of three of the reflections were fixed, the sessions of the other three were chosen by the students. Participants completed questionnaires containing confidence-weighted true-false items (see Dutke & Barenberg, 2009) on the whole lecture content. In addition to the correctness, this item format asks for the confidence in a judgment, resulting in a four-point scale combining true vs. false with sure vs. unsure (see also Dutke &

Barenberg, 2015). In order to test the change of knowledge and of confidence in the correctness of the knowledge, the questionnaire was administered twice during the semester: Students completed a short version of the questionnaire in the first lecture session (t1), as well as a longer version with more items including the t1 items, in the last lecture session (t2).

Regarding Research Question 1, a repeated-measures analysis of variance (ANOVA) with a 2 (time) X 2 (reflection) design on the knowledge data yielded an interaction, $p < .01$. This effect indicates that the knowledge gain for the non-reflected content was stronger than the gain for the reflected content. However, this effect was mainly due to the lower proportion of correct answers for non-reflected content at t1. An analogous ANOVA on the confidence data yielded a significant interaction effect in the other direction, $p < .01$. Whereas the confidence gain was positive for the reflected content, it was negative for the non-reflected content, indicating a confidence gain caused by the reflections.

Regarding Research Question 2, that is, in order to test the effect of autonomy, a repeated measures ANOVA with a 2 (time) X 2 (autonomy) design on the knowledge data yielded a significant interaction, $p < .01$. This effect indicates a knowledge gain for the chosen, but a loss for the fixed content. The same ANOVA for the confidence data again, in addition to two main effects, yielded an interaction, $p < .01$, indicating a confidence gain for the fixed content, but not for the chosen content.

Contradicting the findings by Barenberg and colleagues (2016) on lengthier problem-based reflections, no general knowledge improvement was gained by applying the short written reflections, especially if the to-be-reflected content was fixed. However, if the content of the reflections was chosen, knowledge increased, which rules out the possibility that students chose the content that they already knew about. Even if completing the reflections did not improve their knowledge, however, students thought that they had, especially on the content they were told to elaborate on. This could be due to heuristic decision making when answering the items.

Taken together, the results underline the importance of distinguishing cognitive from metacognitive processes in researching interventions on student learning (also see Barenberg, et al., 2016). In order to influence knowledge, written reflections might have to be intensive and problem-based rather than short and generic. Even interventions that do not enhance knowledge may, however, enhance students' confidence in their judgments, calling for caution when interpreting their self-assessed learning gains.

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Learning through retrieval practice: additional evidence from behavior and brain imaging studies.

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Retrieval practice a learning method that leads to the so called testing effect; "the effect of learning through retrieval practice". In a review, Dunlosky (2013) concluded that "Testing effects have been demonstrated across an impressive range of practice-test formats, kinds of material, learner ages, outcome measures, and retention intervals. Thus, practice testing has broad applicability." The present paper presents three studies targeting university and upper secondary students. These studies add individual difference and functional brain magnetic resonance imaging perspectives and thus provide empirical support for retrieval practice as an effective method that is applicable in university and regular schools contexts. Study 1 focused on retrieval practice learning of key concepts integrated in an ongoing university course. Learning was also investigated in relation to working memory capacity (WMC). Study 2 addressed a comparison between retrieval practices and group discussion in relation to personality characteristics denoted as Need For Cognition (NFC). Finally, Study 3 investigated the benefits of successful retrieval and the impact on brain activity across repeated retrieval. 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. Using functional magnetic resonance imaging Study 3 showed that successful repeated retrieval is characterized by a reduction in frontal lobe and increased representation variability. By including measures of individual difference in WMC and NFC and a brain imaging perspective, the presented studies provide additional evidence for the effectiveness of retrieval practice in educational contexts.

Extended Summary

Objective

The present paper elaborates on a learning technique known as retrieval practice. Results from both behavioral and fMRI studies of retrieval practice are presented. These results are also viewed in relation to individual differences in cognition and personality characteristics.

Perspective(s)/ theoretical framework

Retrieval practice is a method that leads to the so called *testing effect*; "the effect of learning through retrieval practice". In a review Dunlosky et al. (2013) concluded that retrieval practice is a robust learning technique, effective across a range of materials, among other, paired associates, facts, prose, statistics and science. By providing feedback students can monitor their learning, thereby reducing repeated failures and preventing erroneous learning from occurring. However, it is well known that students instead employ ineffective strategies. Karpicke et al. (2009) showed that the most common strategies were underlining and re-reading, however, these strategies only provide an illusion of knowledge. The present paper reports findings from three studies on the retrieval practice paradigm. In study 1 and study 2 we did in addition measure Working Memory Capacity (WMC) and Need For Cognition (NFC), respectively. Measures that are known to be associated with learning.

Methods

In Study 1 (Wiklund-Hörnqvist et al., 2014), following lectures students were assigned to rereading or retrieval practice with feedback. Learning was assessed immediately, after 18 days, and after four weeks. Individual differences in WMC was also assessed.

Study 2 (Stenlund et al., 2016) compared learning through group discussions with retrieval practice learning and investigated individual (NFC. Individuals with a high NFC are more motivated to think about and seek information for sense-making purposes, while low NFC individuals are more likely to rely on others (Cacioppo et al., 1996).

In Study 3 (Karlsson Wirebring et al., 2015) participants were instructed to memorize Swedish– Swahili word pairs during a fMRI session. One week later in an additional fMRI session participants were again tested on these word pairs.

Materials

In study 1 we used 57 key concepts from three topics in the assigned cognitive-psychology text book. Individual differences in WMC was assessed with an operation-span task (Unsworth et al., 2005).

In Study 2 questions on human emotions was used. Half of the questions was directed towards factual knowledge while the other half to more complex knowledge. NFC was measured using the *Mental Effort Tolerance Questionnaire* (Stenlund & Jonsson, 2017).

In Study 3 we used 60 Swedish-Swahili word pairs as the to-be-remembered materials. Participants were scanned twice in fMRI sessions. The first scanning involved three repeated tests of the word pairs whereas second scanning, seven days later, involved one test of the word pairs.

Results

In Study 1 we found that testing with feedback was superior to restudy and that the difference was sustained over all three time points. We also found that retrieval practice was beneficial compared to restudy, regardless of WMC.

In Study 2 we found that retrieval practice with feedback was more effective than group discussions and that students with high NFC benefit more from participating in group discussions. The performance of high and low NFC participants within the test-enhanced learning group was, however, almost identical across all three retention intervals.

In Study 3 we observed a marked blood-oxygen-level-dependent signal reduction in left dorsolateral prefrontal cortex for recalled word-pairs. This finding indicates a reduction in cognitive load. We also concluded that brain activity for successfully recalled words was associated and increased representation variability.

Scientific and scholarly significance

The combination of brain imaging and behavioral studies provide evidence for viewing retrieval practice as an effective technique/method independent of cognitive proficiency and personality characteristic known to be associated with school performances

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"Would you like to play a game?": Teaching psychological topics through classroom discussions, games, and activities.

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Psychological topics are inherently interesting to most students. However, some lectures focus on names, terms and factual details, thereby forcing students into a passive role trying to record and later memorize a string of isolated facts. In contrast, active involvement with the material may enhance learning and retention. The role of instructor is explored as an inquisitive partner on a collaborative intellectual journey. The published literature is integrated with 30 years of experience teaching college courses. Strategies are presented to encourage active involvement and innovative presentation of material in the classroom. First, strategies can facilitate the presentation of material in an interesting and memorable manner. Vivid images, physical props, and occasional demonstrations can help to increase the tangible presence and visible appeal of certain topics. Second, strategies can help to facilitate an interactive dialogue in classroom discussions. A Socratic dialogue can promote thoughtful discussions of controversial topics. Students can explore ideas, express their opinions, and defend or discard their views. Third, strategies can help students to apply the material to real life situations. Various activities during class or assignments can encourage creative thinking and personalize the learning opportunities. Fourth, classroom games and activities can help to highlight the most important factual material in a manner that remains lively and interactive. Over the course of the semester, these four strategies can help students to grapple with the material in an active manner. Students can explore the personal utility and practical applications of course material. A range of examples will be provided.

Extended Summary

Objectives
Learning is facilitated when students remain active in class and interested in the material. Unfortunately, classroom lectures can become dull, repetitive, and boring. Students may be relegated to a passive role, listening and taking notes. Depending on how educational material is incorporated into the course, there may be minimal educational value from films, role-play simulations, or small discussion groups. The amount of substantive content that is covered through some class activities is relatively small compared to the amount of classroom time devoted to these activities. There are a variety of ways the instructor can bring creative involvement into the classroom, sometimes soliciting active participation and occasionally encouraging the retrieval of material recently learned. The pre-

sent paper explores several strategies for bringing creative energy into the classroom presentation of psychological course material.

Perspective

The role of instructor is explored an inquisitive partner on a collaborative intellectual journey.

Techniques

Strategies are presented to encourage active involvement and innovative presentation of material in the classroom.

Data sources

The published literature is integrated with 30 years of experience teaching college courses.

Conclusions

Several strategies can be used to help make class lectures can be memorable and entertaining. The instructor can use vivid images and fewer words on each powerpoint slide (Winn, 2003). Also, material can be clarified through real examples from the instructor's experience or recent news headlines. Occasionally, physical props and brief demonstrations can help students remember the material because of their visible and tangle aspects. However, it remains important to ensure that the props and demonstrations retain clear education relevance to the material being covered in class.

In many classes, instructors hope for an engaging dialogue with the students. Unfortunately, student responses may be sparse or dominated by the same small subgroup of talkative students, leaving most other students silent. Several strategies may encourage active participation in a class discussion, whether in traditional lectures of smaller seminars. Classroom activities can solicit student opinions and personal experiences related to the topic under discussion. Brief videos can clarify the application of certain notions. Although class videos can provide an enjoyable change of routine, they still rely on a passive process, and students often respond to the start of the movie by putting down their pen so they can simply watch the movie. The Socratic Method can be used to promote an interactive dialogue and a process of guided discovery in the classroom (Overholser, 1993). The Socratic Method relies on a range of questions (Whiteley, 2006), avoiding a reliance on the search for factual details and rote memorization, instead trying to solicit ideas and opinions. Questions aim to help students to become actively engaged in an exploration and critical examination of ideas (Zare & Mukundan, 2015).

Students often relate to class material when they can appreciate its real world applications, extending the presentation beyond a view of knowledge for the sake of knowledge. A variety of methods can be used. Students can be expected to submit term papers or weekly journal entries. Also, role-played interactions can be useful in some classes. Students can be asked to complete a scavenger hunt as a portfolio project, submitting an assortment of materials they gather over the course of the semester. Students can be given extra credit opportunities to develop a self-improvement project, aimed to enhance common tendencies such as healthy eating patterns, personal exercise programs, or improved study regimens.

Finally, important material can be reviewed in an interactive and enjoyable manner. As part of preparation for major exams, the instructor can distribute a study guide to review the important course material (Lin & Dunphy, 2013). The study guide can be rather playful, instead of a tedious review that focuses on names, dates, and terminology. Also, a variety of classroom games can retain an educational focus while presenting detailed material in a playful format. Classroom games can be based on actual televised game shows, or created unique to a specific class. When using a classroom trivia game, a tremendous amount of material can be reviewed in a brief amount of time. These triv-

ia games are best used to review material prior to an exam instead of presenting new information in a condensed format (Kostic, Groomes, & Yadon, 2015; Shiroma et al., 2011). The use of classroom games can increase the energy and engagement in the class (Robinson, 2014).

Scholarly significance

There are a number of interesting variations from traditional lectures. Instructors can present material in a manner that holds the attention of students, moving beyond words in an outline slide but memorable images and examples. Class meetings can examine material through a collaborative dialogue. Instructors can apply material to real life situations that might be encountered in the lives of students. Class time can be used to review the most important material without becoming dull, tedious or pedantic. A variety of examples will be used to demonstrate each of these teaching activities.

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Paper Session 7

Experiences and Attitudes in Students' Learning Environments:
Implications and Perspectives

Chair: *Susane Narciss*; Room: SE 1.008/1.009

Hope being operationalized: Psychology students' personal and theoretical understanding of hope.

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Statement of problem: Within the teaching of positive psychology constructs, educators are often faced with the dilemma of theory versus practice. Researchers have reported many benefits of teaching positive psychology with emphasis on practical value – allowing for interventions to flow from experiential understanding. Methodology: A qualitative research design was utilized. As part of an introductory module on positive psychology, 29 first year students at the University of the Free State, South Africa, voluntarily agreed to discuss their understanding of hope on both a theoretical and a practical level. Semi-structured interviews and two focus groups were conducted. Students were also asked to present a personal artifact that represents hope. Data were analyzed through narrative and discourse analysis which yielded six themes across the cases. Findings: The participants of the study reported the research project to have had personal value of significance. Themes indicated hope as mediator and moderator for current stressors, hope as facilitator for future mindedness, hope as theoretical construct to be shared with others, hope as meaning making tool for past failures, hope as an undefinable movable concept and hope as personal deliberator. Conclusion and significance: Given the relevance of the teaching methods of positive psychology theories together with the need for students to develop hope, this study's results aid in the better understanding of a) teaching practices that are effective b) teaching practices that are valuable on a personal level and c) the way students conceptualize hope for themselves.

Extended Summary

Objectives

In this study, the understanding of hope as it is understood and experienced by first year psychology students, were explored. The researcher was interested in how the students' theoretical understanding of the construct align with their personal experiences of hope. Furthermore the researcher, as lecturer of a positive psychology module, wanted to develop and align teaching practices to help students gain a better understanding of the construct through personal reflection.

Theoretical framework

Experiential learning practices (Kolb, 1984) have been proved as effective, reliable and useful (Kolb & Kolb, 2005). The researcher approached this study from a pedagogical framework in support of experiential learning practices as it have been proved that once students engage with constructs on more than one level, their level of understanding and the application value thereof will improve (Wolf-Wendel, Ward, & Kinzie, 2009). Furthermore the teaching of positive psychology theories and concepts within higher education have received significantly more attention (Parks, 2011). It has been recognized that the teaching of positive psychology have the potential to enrich and develop students as an additional spinoff to their learning (Guse, 2010). Social constructivism was used as methodological paradigm to support and motivate the chosen methodology. Social constructivists sup-

ports the idea of individuals constructing their own reality through connection and interaction and argue that students learn through negotiating meaning within social contexts (Vygotsky, 1978).

Methods

Both content (Neuendorf, 2017) and thematic analyses (Clarke & Braun, 2014) were applied to 29 students' reflections on their understanding and experiences of hope. They were asked to present and discuss a physical artefact that symbolizes hope. After these individual interviews, 14 students participated in two focus groups with the focus on further exploration of how they merge their personal experience of hope with that of their theoretical understanding of the construct. These interviews and focus groups data were transcribed and analysed through the lenses of experiential learning.

Data sources

The University of the Free State is situated in central South Africa and caters for a diverse population of undergraduate and postgraduate students. During their first year of study, most psychology students are enrolled for approximately eight semester modules of which one is Positive psychology. The main objective of this module is to teach and facilitate the understanding of constructs such as hope, resilience, character strengths, and motivation. 29 of these full time students voluntarily participated. They all brought one physical artefact to the research interview. Physical artefacts are acknowledged within qualitative research as a facilitator for discussion and further exploration (Tellis, 1997). The interviews resulted in 29 in-depth discussions raising personal details of hopeless situations in the past, but also of hopeful thoughts and actions. Furthermore two focus group data were also collected which deepened the exploration of the topic.

Results

Through narrative and content analysis main and subthemes of significance emerged. Firstly individual narratives were considered after which a cross case analysis was conducted. This analysis yielded four themes of significance. The first theme indicated hope as mediator and moderator for current stressors. Within this theme it was evident how the participants use hopeful thoughts to negotiate the many stressors related to higher education. Secondly hope as facilitator for future mindedness illustrated how the participants could formulate goals and dreams because of having experienced hope in the past. Tied to this theme, participants indicated how engaging with hope as theoretical construct helped them in their meaning making processes. Lastly hope were coined as an undefinable movable concept and also as holding the potential to facilitate more careful consideration of behavior.

Scientific or scholarly significance of the study or work

Considering the results of this study, it is clear that the teaching of positive psychology constructs can provide a valuable developmental lens through which students' journeys can be understood. The motivational dynamics of these constructs can support students' understanding of the theory and in effect, improve academic marks. Through the findings of this study, both educators and students can be reminded of the reality of how the teaching and learning of psychology can be used in more ways than just the pass mark.

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When research and teaching meet: Experience-based activities for raising awareness about gender stereotypes.

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A combined study aiming both to investigate psychology students' stereotypes about gender and to raise awareness among these students about stereotypes and about their own perceptions of gender was conducted. Two stereotype experiments along with the following pedagogic discussions about the results of these were conducted with 134 psychology students at an undergraduate course in personality psychology at the Department of Psychology, Umeå University, Sweden. The basis for testing students' stereotypes was a case – a recorded scripted mixed-sex dialogue. All students listened to the same case, but voices were manipulated so as to sound male or female. After listening to the dialogue the students answered questions about the personality and behavior of one person in the case. Half of the group rated a male voice, half a female voice. Once completing the questions, group level data were revealed to the students and results were discussed in a seminar format. Results revealed that students perceived the person with a female voice significantly more extrovert, conscientious and emotionally stable and also more open, accepting and understanding than the same person when presented with a male voice. The students generally evaluated the learning experience positively. The teachers' evaluation of the method was that it was effective, and that it made the students analyse themselves in order to understand the results from the experiment. It thus made the discussions concerning stereotypes more concrete.

Extended Summary

Stereotypes affect us all. It is an instant and automatic categorization process. We are aware that stereotypes exist but often we don't see ourselves as prejudiced. We see this in research and teaching. The challenge was how to make discussions meaningful and to help students see that this concerns them. As future psychologists, the students need to be aware of the automatic and quick process in which stereotype judgements arise. They also need to be aware how they themselves are affected by these processes. We asked ourselves whether we could integrate research with teaching. The aim of the study was to find out which stereotypes psychology students possibly hold about gender and personality, and raise the awareness of students' own and others' perceptions of gender. Our research questions were: 1. Does the perception of Kim as male or female affect students' rat-

ings of him/her in terms of interpersonal actions and personality? 2. Will this method help the students' learning about stereotypes?

The subjects were 134 students in a course on Personality Psychology at the Department of Psychology, Umeå University. 40 % of these students were men and 60 % women. 75% were Swedish students and 25% were students from abroad. We used experience-based methods to investigate our research-questions. The students listened to a few scenes with two students called "Kim" and "Sam". Using digital methods, two versions were produced from one singular recording. Thus, half of the group listened to "Kim" sounding like man and half of the group listened to "Kim" sounding like a woman. The dialogues were identical apart from alterations made in pitch and timbre. Immediately after listening to the dialogues, the students rated the personality and behavior of "Kim" in relation to TIPI (Ten item Personality Inventory) and items based on the SASB model (Structural Analysis of Social Behavior). Once completing the questions, group level data were revealed to the students and results were discussed in a seminar format. We also asked the students after the seminar discussions: What was your general experience of the experiment that you have just partaken in? Did you learn anything new? The design of the study is presented in figure 1 below.

Results show that even though the dialogues were identical in the case, the students rated them differently according to which gender Kim represented: Kim sounding like a woman was rated more open, accepting and understanding than Kim sounding like a man, using items based on the SASB model. Kim sounding like a woman was also rated significantly more extrovert, conscientious and emotionally stable on the Big Five factors. These results were then discussed at a debriefing session, and an evaluation of the learning situation was conducted.

In summary, the majority of students' perceptions of this pedagogic model were positive; 77 % were clearly positive about their learning experience, 9,5 % were neutral, and 13,5 % expressed critical feedback. 56 % of the comments had content that revealed that this method of teaching had led to self-reflection or an enhanced awareness of the students' own stereotypes. Examples of answers include: "I thought the results were very interesting and makes you think that that you might have some prejudice even though I didn't think I did." And: "I have learned to reflect and think about these important questions and how much I actually am influenced by stereotypes". Examples of other typical comments were: "Female and male stereotypes were stronger than I expected, even if only influenced by the voice." "That we're more affected by bias than we think." "That I have more stereotypes than I thought I had." "I did learn some surprising things regarding preconceptions about gender." "I learned that cultural aspects affect people's thinking a lot." There were also a minority of more negative quotes like "No, not really. I mainly just had my negative prejudices about gender research and gender studies confirmed." The general negative comments took the position that the results were expected so there was nothing to discuss, or that they had figures out the setup from the beginning. One comment: "sounds like Marxism" revealed how the potentially political dimension of the subject influenced a negative response.

Asking the teachers about their perception of the experience based teaching activity, we saw that they considered the method effective. They found that this method made the students analyze both the topic and themselves more in-depth in order to understand the results from the experiment, and try to relate the results to earlier research findings. The teachers also pointed out that this format made the discussions concerning stereotypes more concrete.

Figure 1. Design of the study.
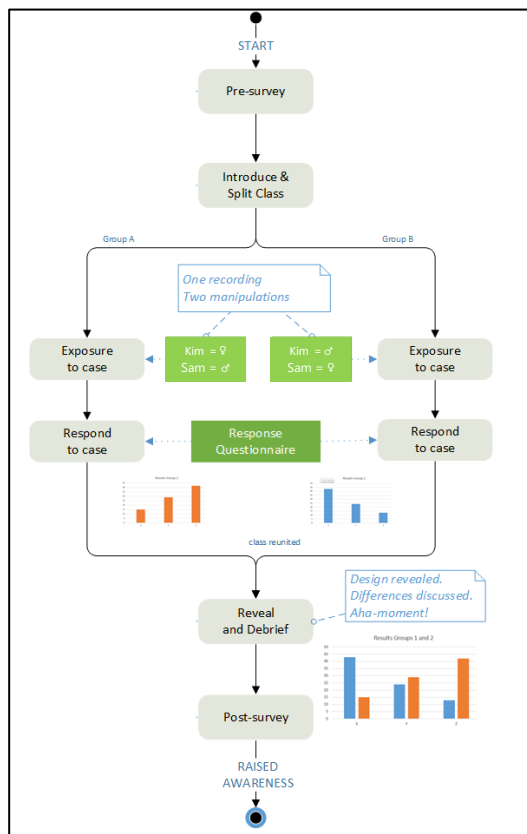
Teaching statistics to major using service learning.

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Washington State University

Unfortunately, many undergraduate students express extreme anxiety regarding math and statistics, which results in a strong dislike and misunderstanding of statistics in general, and particularly in regards to how statistics is used in psychology. To address these concerns, we implemented a service learning approach in an introductory statistics class, in which we teamed up with a local non-profit organization. The students learned about the organization, analyzed data from the organization, and presented their findings to members of the organization. Quantitative data regarding anxiety towards statistics and perceived utility of statistics was collected at the beginning and end of the semester. Qualitative data was collected throughout the semester. Though the sample size was small (n = 14), the preliminary data are promising: service learning may be a useful strategy to help students apply their technical knowledge (statistics) to their future roles as psychologists.

Extended Summary

Objectives or purposes
The goal of this project was to use empirically supported pedagogical practices to improve student outcomes in an introductory statistics course designed for psychology majors. At our university (and is the practice at many universities in the states), students must earn a grade of a "C" or better in

order to be a registered psychology major. This means that students arrive with significant apprehension and many students express extreme anxiety over taking the class. To complicate this further, students do not inherently understand how learning about *numbers* prepares them to help *people*. Simply put, many psychology students detest the need to take a statistics course. Thus, to help students understand the concepts of statistics while also meeting their desire to "help" (as psych majors, they have a tremendous drive and capacity for helping others), I re-conceptualized the class as a service learning project wherein students worked with data from a local non-profit organization. The thought process was that if students could work with an actual organization and meet the people *behind* the data, they would gain a deeper appreciation of statistics, experience less anxiety, and increase student self-efficacy (one of the biggest predictors of student success in math classes).

Perspective(s) or theoretical framework

We drew heavily upon Kolb's experiential learning cycle, which I loosely conceptualize here as seeing (reading/ learning/being exposed to abstract concepts), thinking (cognitively engaging with the material), doing (having an applied experience), and reflecting (reflecting on the learning and experience). For the implementation of this project, we made sure the class was designed to address each of these components.

Methods, techniques, or modes of inquiry

We partnered with a local non-profit organization that needed help with data analysis. At the beginning of the semester, the students learned about the organization – their mission in the community, the population they served, and the strengths and weaknesses of that particular organization. Once students understood the context of the organization, the organization provided a wealth of data for the class to use (any personal identifiers were removed). This dataset created the foundation for the duration of the class, as all analyses conducted throughout the semester used this dataset. For example, early on in the semester, the students used SPSS to practice analyzing descriptive statistics such as the average donation amount and standard deviation of donations. Later in the semester, they used the dataset to conduct more advanced analyses such as t-tests, ANOVAs, and correlations. Each week, the students turned in an APA style lab write-up that included a results and discussion section, with heavy emphasis on how the results might influence the decisions and policies of the non-profit organization. At the end of the semester, the students formed groups and selected the analyses and results that *they* thought would be most important/relevant for the organization. Using their selected analyses, the students presented the findings and recommendations to the organizations' board of directors.

Data sources, evidence, objects, or materials

We used an introductory statistics class (n = 19) to collect data, including data collection at the beginning of the semester (baseline quantitative measures of stats anxiety and perceived utility of stats), throughout the semester (qualitative reflections), and at the end of the semester (final quantitative measures of stats anxiety and perceived utility of stats).

Results and/or substantiated conclusions or warrants for arguments/point of view.

Given the small sample size of paired data (Time 1 compared to Time 2; n = 14), interpretation of the quantitative results is limited but promising. The service learning project did have a positive impact on students' anxiety regarding stats and their perceived utility of the subject. The qualitative results were extremely positive over the course of the semester, with students increasingly able to make connections between what they were learning in class and the marketability of such skills in the workforce.

Scientific or scholarly significance of the study or work.

Engaged teaching and learning, particularly in statistics courses, is a difficult endeavor at best. Further, there is a relative dearth about statistics specific teaching interventions. This project represents an initial effort to create an empirically supported strategy for teaching statistics at the undergraduate level.

Adapting information literacy instruction to students' academic progress - A field report.

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Leibniz Institute for Psychology Information

This field report describes experiences with two versions of the curriculum-integrated blended learning training in information literacy for psychology students (BLInK). Both versions use the same online materials which had to be completed before a classroom session. The brief version was designed for a homogenous audience of first year psychology students. Therefore, participants were requested to skip some of the advanced sections of the online materials. During the classroom session, approaches to finding literature were discussed and participants were asked to complete exercises. The extended version was designed for an audience of undergraduate psychology students with varying academic progress. Therefore, participants were asked to complete all online materials; the classroom session was longer and additionally contained a section on the appraisal of scholarly publications. Evaluations of both versions by means of a questionnaire (N = 71) revealed that the brief version obtained better ratings. It is argued that this finding can be explained by two differences. First, the brief version was well adapted to the audience while the extended version contained materials that might have overstrained first year students or have appeared irrelevant to them. Second, only the course in which the brief version was integrated required participants to write a short empirical term paper. This task might have clarified the importance of information literacy skills and provided a use case for these skills. Recommendations for the design of information literacy instruction are derived from these experiences.

Extended Summary

To acquire information literacy (IL), i.e. a set of knowledge and skills required to find and evaluate scholarly information, is a well-established learning objective of undergraduate psychology programs (American Psychological Association, 2013). Combining online and classroom learning (blended learning) has been considered an optimal teaching model for IL. For example, in a flipped classroom, students work on relevant learning materials online at their own pace while class time can be devoted to exercises and reflection. Additionally, online materials can reduce individual differences in previous knowledge before classroom instruction starts (Arnold-Garza, 2014, p.13).

The aim of this contribution is to compare two versions of the blended learning training in IL for psychology students (BLInK; Leichner, Peter, Waeldin, Mayer, & Krampen, 2015): A brief version of the training for first year undergraduate psychology students at the University of Trier and an extended version for undergraduate psychology students with varying academic progress at the University of Luxembourg.

The online materials used for both versions include basic information like an introduction to library resources, but also more complex materials like the use of scholarly databases (e.g., PSYNDEX, PsycINFO). For both versions, students were urged to complete the online materials (which also contain quizzes and tasks) before the classroom session. Participants of the brief version were requested to skip some of the more advanced materials (e.g., citation indices) while participants of the extended version were urged to complete all online materials.

The brief training was integrated into an introductory course. One of the course requirements was to conduct an observation study in groups and to write a term paper about this. This provided a use case for IL skills. Students participated in the classroom session in seven groups of around 13 persons. The sessions took 1.5 hours; during that time, approaches to finding literature were discussed and participants completed several exercises. The instructor provided guidance and answered questions that arose.

The extended training was also part of an introductory course which, though, did not require participants to write an empirical term paper. The classroom session was longer (around 2.5 hours); participants were split into four groups of around 15 students each. The first part of it was identical to the classroom session of the brief training; during the second part, criteria to evaluate scholarly literature including citation indices were discussed.

To assess the learning experience, a questionnaire for the evaluation of blended learning instruction was used which allows an evaluation on eight dimensions (Peter, Leichner, Mayer, & Krampen, 2014). Additionally, participants had the opportunity to make oral or written comments. Due to small and unbalanced sample sizes (brief training: N = 51; extended training: N = 20), Mann-Whitney-U-Tests were computed. It was found that participants of the extended training appraised the training lower regarding overall use and classroom teaching, but considered it to be less demanding. A closer look at the data from the extended training shows that first year students tended to give lower ratings than second and third year students what is corroborated by oral and written comments.

Because the two samples differed in several regards, the results do not allow for an unambiguous interpretation. However, it is suggested that the greater acceptance of the brief training might be explained by two reasons: First, as the audience was a homogenous group of first year students, the training could be targeted to the audience by leaving out some of the advanced materials. The extended training, contrastingly, contained these advanced materials to make it interesting and relevant for second or third year students. Consequently, one participant of the extended training commented that the course was suitable for second or third year students, but overwhelming for first year students. Second, the term paper about the observation study may have helped participants to recognize the relevance of IL skills and offered an opportunity to apply them. Based on these experiences, it is recommended to make sure that the learner group is homogenous, so that instruction can be tailored to the academic progress of the audience and to integrate IL instruction into courses that allow an application of IL skills.

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Teaching educational psychology with an audience response system - Auditorium Mobile Classroom Service (AMCS) as a mean to foster learning in university lectures.

Felix Kapp, Iris Braun, Tenshi Hara, & Susanne Narciss

Technische Universität Dresden

Lectures at universities are often transmission-focused and lack interactivity. The demands teachers in the field of psychology are facing are the same as in other disciplines. It is challenging to interact with all students, the students have varying learning goals within the lecture (due to different university careers or personal interests) and assessing progress is hard through just a few interactions. In order to address these problems we developed an Audience Response System. Based on research on self-regulated learning (SRL) Auditorium Mobile Classroom Service (AMCS) was designed. AMCS supports students to regulate their own learning process during the lecture. Learning questions, surveys and personalized messages are delivered to the student's mobile device during the lecture. The lecturer can monitor progress and learn about the cognitive and motivational conditions of the students by analyzing their answers. AMCS was used in a lecture on educational psychology for bachelor students over a period of four continuous sessions. Between 40 and 57 students participated in the activities during the class. Evaluation at the end of the fourth sessions revealed that students appreciated especially the learning questions within the sessions. The overall judgment of AMCS was positive and students expressed the opinion that the tool led to an increase of interactivity in the class.

Extended Summary

1 Introduction

Main lectures at universities are often transmission-focused and lack interactivity. As in other disciplines, teachers in the field of psychology face the following challenges: it is nearly impossible to interact with all students, the students have varying learning goals within the lecture (due to different university careers or personal interests) and assessing students' understanding is hard with just a few interactions. In order to address these issues we developed an Audience-Response-System. Based on research on self-regulated learning (SRL) Auditorium Mobile Classroom Service (AMCS) was designed. AMCS allows lecturers to design interventions in advance of the class. Learning questions, surveys and personalized messages are then delivered automatically to the student's mobile device during the lecture.

2 Features of AMCS

Within lectures students have to self-regulate their learning process (Zimmerman, 2000). Yet, students differ with regard to their goals, prior knowledge and available learning strategies. Therefore, they process new information in various ways. Furthermore, the ways and quality of monitoring their understanding and learning process within a lecture may differ depending on their metacognitive skills. The following four features of AMCS aim at supporting students in self-regulating their learning. They furthermore provide information to the lecturers in order to improve their teaching.

2.1 Interests / personal goals - surveys

At the beginning of the lecture students are asked about their personal goals and interests (see fig. 1). The answers are stored for each student in a database and are used as triggers for later on interventions such as messages and learning questions. At the same time, the short survey at the beginning helps students to reflect about their goals.
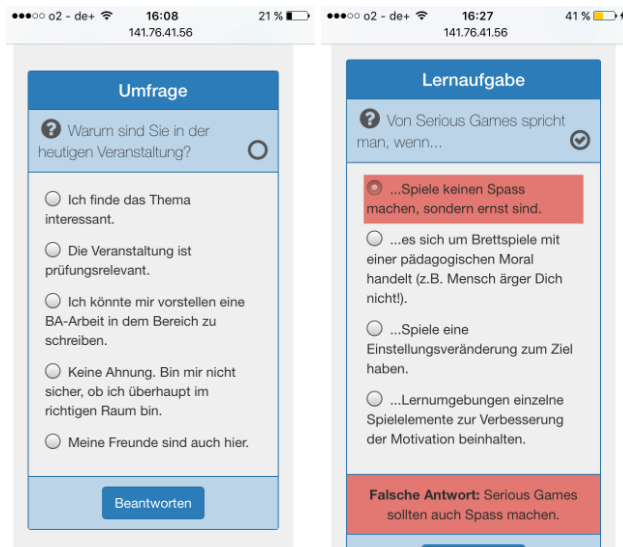
Figure 1: Survey (left), learning question (right)

2.2 Learning questions distributed over the lecture

AMCS is able to deliver learning questions at different point of time during the lecture. In contrast to other Audience-Response-Systems, AMCS provides individual feedback. Students can answer multiple-choice questions on their smartphones and receive individual feedback after choosing an option (see fig. 1). The lecturers can display the results of the audience on the presentation screen in case they want to discuss it in public. AMCS offers support for the rule-based construction of learning questions (according to Kapp, Narciss, Körndle & Proske, 2011).

2.3 Prompts or delayed feedback - push notifications and messages

Depending on the students' preference (e.g. exam preparation or interest in the subject), which they indicate in the survey at the beginning of the lecture, strategic guidance is delivered during the lecture via prompts (e.g. "The issue on the current slide is relevant for the exam"). The learning questions delivered during the lecture contain the possibility to identify knowledge gaps of the students. Thus, students who have made mistakes in a learning question at the beginning of the lecture, can be provided with additional feedback at a later point of time (e.g. "You have made a mistake earlier. The issue is explained by Prof. Y on the current slide.").

2.4 Formative assessment - evaluation center for lecturer

Learning questions and survey results offer the possibility to evaluate university lectures (see fig. 2). Lecturers have access to relevant information during the lecture (immediate display of learning question results or surveys), after single 90-minute sessions and after a complete course of a whole semester (the standardized evaluation survey can be also delivered via AMCS).
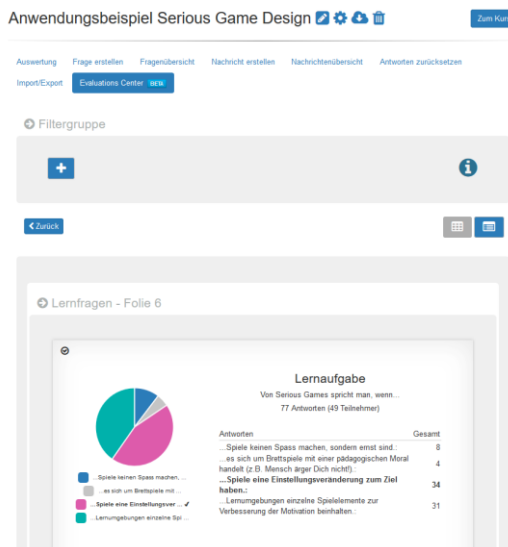
Figure 2: Evaluation Center – lecturer view

3 Teaching Educational Psychology with AMCS

AMCS was used in a lecture on educational psychology for Bachelor students over a period of four continuous sessions ("serious games", "design of learning tasks", "self-regulated learning" and "assessment and evaluation"). Between 40 and 57 students participated in the AMCS activities during the class (approximately 60 to 70 students attended the class). In each session six learning questions were provided (two at the beginning, two after half of the time and two at the end). Additionally the sessions started with 2 to 3 survey questions asking for the personal learning goals and prior knowledge of the students. Prompts and delayed feedback was implemented in two of the four sessions.

The evaluation at the end of the fourth sessions revealed that students appreciated especially the learning questions within the sessions. The overall judgment of AMCS was positive and students expressed the opinion that the tool led to an increase of interactivity in the class. The usefulness of the push-notifications was questioned by the students. This might be due to technical problems and to missing adaptivity. Further research is necessary in order to develop this feature of AMCS.

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Understanding engagement and active learning among online clinical students during residency experience.

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Active learning and engaged learning communities have been determined to be important considerations for students when scholars consider how best to ensure that they are retaining the information that is being delivered in classrooms (Liu et al., 2007). With the increase in online, hybrid and distance formats this can be even more challenging to ensure that students feel engaged and classes are being taught in ways that meet learning outcomes and align with the way that they can learn. The following presentation is intended to share preliminary findings from a group of online students in a clinical masters degree program and results of survey data distributed during their residency experience on what helps them feel engaged and actively involved in their own learning. Specific information will be discussed pertaining to findings of how a student feels engaged and active in their learning and the ways that they feel connected in their learning community.

Extended Summary

Objectives or Purposes

Online degree programs are becoming increasingly popular and some require an on campus residency experience to enhance and support the student's learning, develop and illustrate competency in their area of expertise and provide a means to assess these skills being demonstrated during their development. A challenge in online degree programs is that students often report feeling isolated from peers, the University and the activities that on campus students have available to them and this can lead to lower satisfaction and increased attrition (Ludwig-Hardman & Dunlap, 2003). An important aspect of online education is the notion of a learning community defined by Porter (2004) as "a group of people who communicate with each other across the Internet to share information, learn more about a topic or work on a project or mutual interest," (p. 193). The residency experience required in many of these programs is one effort to increase a sense of learning community however it is still unclear as to what specifically factors into a student's sense of being part of a community even during the residency experience. Furthermore, research is lacking on the whether including a residency experience leads to higher satisfaction in the program, effectiveness in terms of the learning that takes place and retention of students in the program over time. This presentation will look at preliminary data obtained from students during their residency experience to learn more about their perception of sense of being engaged and part of their active learning community.

Perspective(s) or theoretical framework

According to Social Learning Theory proposed by Albert Bandura (1986) people learn within social contexts through modeling and observation of behaviors. The three models he developed to support his theory can be applied to the residency experience for online learners which shows the importance of modeling skills and behaviors (Greener, 2009; Hrastinkski, 2009; Salanova, Llorens & Schaufeli, 2011; Sinclair & Ferguson, 2009), use of verbal instruction and use of videos to discuss concepts throughout their experience (Vincenzes, Drew & Romero, 2015). Salvanova et al., (2009) also found that enthusiasm had a positive effect on activity engagement and self-efficacy which can be translated into one's residency experience if it is experienced as positive and then can ultimately enhance their overall self-efficacy around learning in the online format.

The objectives and value of this preliminary qualitative study is to: 1) learn about the specific experience of sense of engagement, connection and sense of academic rigor during their residency experience; 2)

determine categories of these experiences to pursue hunches and potential for analytic study; 3) determine whether there are 'active ingredients' in the residency experience that lends itself to overall sense of satisfaction, engagement, and improved self-efficacy in online learners; and 4) ascertain whether there are components in the residency experience (active learning) that lead to improved learning outcomes and retention in online degree programming. For the purposes of this presentation, the theoretical framework will guide a rigorous discussion about active and engaged learning and preliminary findings from the data set will be used to support the framework and discussion. Future work on comparing and analyzing the data to other sources as well as to outcome variables such as retention rates and graduation rates will be discussed also.

Method

Overview

Students in an online Clinical Master's Degree Program engage in a residency experience during their first semester and this residency lasts for 4 days. At the end of each day a feedback form is given to students in order to continue to learn more about their perceptions and experiences of what is helpful to them during this time. Student's sense of feeling engaged is positively related to perceived learning gains (Liu et al., 2007).

Student's sense of satisfaction is positively related to engagement and learning gains (Lui et al., 2007). Learning specifically what helps students in online degree programs feel a sense of satisfaction and engagement and whether this really leads to overall success and retention.

This is a descriptive study based on findings from students over the course of 8 different residency experiences and the anonymous feedback provided by 150 students.

Participants

Students enrolled in the online Clinical Master's degree program at Hazelden Betty Ford Graduate School of Addiction Studies taking one of their first courses which also includes an on campus residency experience. This course is offered each semester (3 semesters per year) and included in this study are students from the following terms: Winter, 2015; Summer, 2015; Fall, 2015; Winter, 2016; Summer, 2016; Fall, 2016, Winter, 2017 & by this presentation also Summer, 2017). Students in the current study represent 36 of the U.S states and Canada. The age range in the participant pool is 24-65 years with a mean age of 41.8 years. [ethnicity breakdown]

Procedure

Students participate in the residency experience on campus and at the end of each day they are provided with an evaluation form and given 15-20 minutes to complete. They are told that their honesty is appreciated and that the surveys are anonymous. The data collected is used solely for the purpose of improving the residency experience for students in terms of academic rigor, attention to learning outcomes and their sense of engagement and connectedness. They are provided the same survey at the end of each day as there are different activities, tasks and lectures each day. Participation in the survey is voluntary and student's confidentiality is maintained through the anonymous nature of the data collection. Students are provided with an envelope at the back of the classroom and they place their surveys in the envelope as they leave for the day. No identifying information is asked of students on these surveys.

Data sources, evidence, objects, or materials.

The survey completed by participants the end of each day during their residency was a modified version of the Critical Incident Questionnaire (CIQ), Brookfield, S. (2009). Retrieved from

www.stephenbrookfield.com/ciq/ . Questions are open ended designed to engage students in a critical reflection of their learning experience. The questions on the survey are as follows:

1. At what moment in class today did you feel most engaged with what was happening?

2. At what moment in class today did you feel most distanced from what was happening?

3. What action that anyone (teacher or student) took in class today did you find most affirming or helpful?

4. What action that anyone (teacher or student) took in class today did you find most puzzling or confusing?

5. What abut the class today surprised you the most? (This could be something about your own reactions to what went on, or something that someone did, or anything else that occurs to you).

Results and/or substantiated conclusions or warrants for arguments/point of view

Data Analysis

The analytic process being used in this qualitative study is based on grounded theory methods, which consist of "systematic yet flexible guidelines for collecting and analyzing qualitative data to construct theories 'grounded' in the data themselves, (Charmaz, 2006). This analytic process was based on an immersion of the qualitative data obtained from students during their residency experiences. Data was read, sorted and open coded; described by Strauss & Corbin (1990) as that which "fractures the data and allows one to identify sub categories, their properties and dimensions." Language of participants guided the codes and sub category labels, which were identified with short descriptors. Codes and sub categories were systematically compared and contrasted in order to yield inclusive results that fit into the categories reflective of the overall experience during residency. By being open to the experiences by students, what is happening in their learning process and described in their words we can begin to construct ideas based on observations, interactions, and materials gathered in this process. Empirical study of these experiences and hunches take place as well as potential analytic ideas about those experiences. Data is separated, sorted and synthesized through qualitative coding in order for these concepts to be explored. For the purposes of this presentation, data will be presented from a theoretical framework and to guide our discussion. Frequency distributions will be provided as well as discussion on methods to analyze the data for future study.

Scientific or scholarly significance of the study or work.

Online and distance learning is becoming increasingly common at even some of the most prestigious Universities including; Harvard University, Stanford University Arizona State University and Duke University to name just a few in a variety of degree awarding programs. What are the components of online learning outside of the convenience factor that continues to draw so many learners? The positive effects on learning as well as other variables such as satisfaction (Alavi & Dufner, 2005), active engagement of the learners (Dai, 2007) and the role that the learning community plays on a learner's positive perception of the program (Liu et al., 2007) are all variables being studied in the interest of determining the most effective methods for delivery of online degree programs yet this research is still in its infancy and has not necessarily led to empirical evidence that these factors contribute to or have a role in learner performance (Liu et al., 2007). In addition, residency experiences, which are required in many online degree programs, have yet to determine whether this contributes to the success and/or retention of students and if so, what are the specific factors or active ingredients linked to these variables? This preliminary study hopes to shed some light on this topic by quantifying the data gathered by students during their residency experience in an online clinical degree program and ultimately linking these variables to student success and retention.

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Paper Session 9

Conceptual Frameworks: Perspectives of Development, Implementation
and Students' Acceptance of Psychological Education Programs

Chair: *Jonathan Barenberg*; Room: SE 1.008/1.009

Applying user experience and design thinking methods to create target oriented trainings.

Dominique Stimm, Arnd Engeln & Sabine Högsdal

Stuttgart Media University

The research project "Innovative methods for the development of target oriented trainings" aims to transfer successful methods of User Experience and Design Thinking from the context of product development to the context of education development. An interdisciplinary team is taking part in this research project (experts from the fields of Psychology, Educational Sciences and Design). The project is founded by the Ministry of Science, Research and the Arts Baden-Württemberg, Germany, and it is in cooperation with Robert Bosch GmbH, business unit Powertools (PT) and the Volkshochschul-verband Baden-Württemberg e.V. (VHS).

The goal of the project is to create a user manual providing concrete instruction for training providers. The user manual combines successfully proven methods from the fields of User Experience and Design Thinking in order to plan and design target oriented trainings in the context of professional development. The manual itself is developed in a user-centered way by involvement of potential users.

The project includes two case studies, one realized with PT and the other with VHS. In this paper we will present the PT case study. The PT case study includes the development of an user centered training concept which is e.g. about teaching psychology to engineers and brand managers. This concept has already been applied at PT and Media University Stuttgart.

Extended Summary

Target orientation is a term used very often and well known in literature of education and teaching (e.g. Siebert, 2006). Nonetheless it is not simple to create lessons or trainings in a target oriented way (Löffelmann, 2008). The innovative idea of this research project is to transfer successful methods of User Experience and Design Thinking from the context of product development to the context of education development to create target oriented trainings. The project aims further to create a user manual providing concrete instruction for training providers. The user manual combines successfully proven methods from the field of User Experience and Design Thinking which are worth in conceptualizing target oriented trainings in the context of education development. The project is in cooperation with Robert Bosch GmbH, business unit Powertools (PT) and the Volkshochschulverband Baden-Württemberg e.V. (VHS) and is founded by the Ministry auf Science, Research and the Arts Baden-Württemberg. The project includes two case studies, one with PT and one with VHS. In this paper we will present the PT case study.

We based our research on the user-centered design process (ISO 9241-210:2010) in order to test if user-centered design methods are worth in conceptualizing target oriented trainings.

According to this process a first step is to understand and specify the context of use which means to understand the user and his needs. As a base for our user research we choose the ethnographical interview (Spradley, 1979) which combines observation and qualitative interview. To allow inter-subjective reflection, two project members of the Media University took part in 2 two-day trainings

at PT to observe the training situation. The trainings were about teaching psychological contents relevant for user-centered product development to engineers and brand managers. 14 PT employees took part in these trainings. After the training qualitative interviews were hold with 10 of the training participants. The sample was heterogeneous: Participants of different age (25-53 years), gender (4 female, 6 male), motivation to take part in trainings, educational background, professional activity and professional experience.

Within the interviews we focused on the 6 facets of User Experience: *task, self-expression, learnability, convenience of use, joy of use, aesthetics* (Engeln, 2013; Engeln & Engeln, 2015). Taking into account that people very often are not consciously aware of their needs requirements focusing on the 6 facets of User Experience can help to gain a better insight into the users´ needs.

In a second step we analyzed the user requirements which were identified within the ethnographical interviews. We created user boards, extracted key learnings and defined so called Opportunity Areas. Opportunity Areas are relevant fields of requirements for improvement of user experience because they address not or only partly fulfilled user needs. In our research the Opportunity Areas were concerned with e.g.:

- trainer
- training materials
- group dynamics during the training
- transfer of acquired skills into daily work

The third step of the user-centered design process deals with the definition of design solutions to meet user requirements. To find solutions for the defined Opportunity Areas we held an ideation workshop in which we used different creativity techniques to generate ideas such as brainwriting, brainstorming and the 6-3-5-method. After having generated a quantity of ideas, we started prototyping, which means the conceptualization of prototypical training elements. Prototyping can be divided into different phases: *low fidelity, mid fidelity,* and *high fidelity* prototyping (Engeln & Engeln, 2015). Whereas low fidelity prototypes can be very simple concepts, to be realized in less than one hour (for example text based scenarios), mid fidelity prototypes can be more developed concepts (for example animated scenarios). High fidelity prototypes are concepts which already work in real environment.

The forth step in the user-centered design process is concerned with the evaluation of prototypes. In our project we created pilot trainings at Bosch PT and at Media University. In order to evaluate the trainings we asked participants to assess the training. This was done by qualitative interviews as well as the UX questionnaire which includes the 6 facets (Engeln & Engeln, 2015). Results can be seen in figure 1.
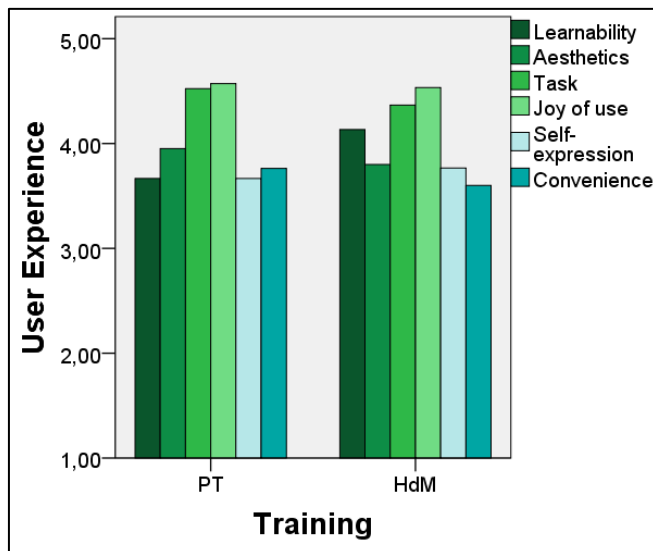
Figure 2. Evaluation results

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Evidence from across the pond: An approach to model teaching characteristics.

Aaron S. Richmond[1], Guy A. Boysen[2], & Regan A. R. Gurung[3]

[1]Metropolitan State University of Denver , [2]McKendree University & [3]University of Wisconsin

Recent efforts to provide standardized benchmarks for quality in undergraduate psychology education have not included specific definitions of teaching excellence. However, the Society of Teaching of Psychology (STP) and Richmond et al. (2014) have creating six key Model Teaching Characteristics. These aspirational characteristics include Training, Syllabus, Content, Instructional Strategies, Assessment, and Student Evaluation of Teachers. Teachers can use these characteristics as a standard for self-evaluation and an aspirational model for teaching. In this paper, we will include a discussion of the 18 specific traits and practices included in the list of model teaching characteristics, with special emphasis on evidence-based practices. In addition, attendees will engage in a self-evaluation of

their consistency with the characteristics and their ability to provide evidence to document their consistency. Finally, we will discuss the utility of this model across different approaches to under-graduate psychology education (e.g., EuroPsy and the Bologna process).

Extended Summary

Objectives or purposes

We have several objectives and purposes for this paper presentation. First, we will outline the selection of the Model Teaching Characteristics (MTC). In order to make a specific connection with the conference theme, we will give special attention to the evidence-based teaching practices contained within the characteristics by emphasizing that model teachers and provide evidence of each MTC. Second, we will give participants the opportunity to use the rubric created by Richmond et al. (2014) to consider their consistency with the 18 traits/practices and the evidence they could provide to document their consistency. In addition, there will be opportunity for open discussion about the characteristics, their use, and future directions. Third, we will discuss how the MTC may map on to and be used within the context of the EuroPsy and Bologna process.

Perspective(s) or theoretical framework

There have been several recent efforts to define and standardize principles of quality in psychology education (e.g., APA, 2011), but teaching itself, thus far, has not been included. Several methods exist for defining an excellent teacher of undergraduate psychology, but they do not offer concise, comprehensive guidelines for achieving and documenting teaching high-quality teaching. In order to address this limitation, through the Society for the Teaching of Psychology's (STP), Richmond et al. (2014) developed a multimodal list of model teaching characteristics (e.g., pedagogical training, instructional methods, assessment process, syllabi construction, course content, and student evaluations) that teachers can use as a standard for self-evaluation. Consequently, Boysen, Richmond, and Gurung (2015) sought to empirically validate the MTC.

Methods, techniques, or modes of inquiry

Boysen and colleagues solicited faculty from across the United States to complete an online survey of the MTC. Faculty completed the 18-item MTC scale, the Teacher Behavior Checklist, the 10-item Big-Five Personality Trait survey, and a demographic questionnaire.

Data sources, evidence, objects, or materials

There were 208 faculty members who participated in the study. The majority were Caucasian (81%), female (68.3%), taught at either community colleges (24.5%) or private baccalaureate colleges (20.7%), and were senior/tenured faculty (48.1%).

Results and/or substantiated conclusions or warrants for arguments/point of view

In sum, teachers, on average, reported meeting the model's six general criteria 77% of the time. Teachers reported meeting criteria related to syllabus construction most frequently (91%) and the instructional methods criteria least frequently (69%). These results suggest that the Model Teaching Criteria have potential for use in psychology teachers' professional development.

Additionally, MTC characteristics were positive correlated to master teacher behaviors. See Table 1 for specific results.

Table 1. *Descriptive Statistics, Pearson Correlations, and Zero-Order Partial Correlations for the MTC*

Variables	1.	2.	3.	4.	5.	6.
1. Training	--	.26**	.46**	.11	.02	.06
2. Instructional Methods	.33**	--	.23**	.03	.03	.14
3. Assessment	.48**	.39**	--	.18**	.05	.20**
4. Content	.16*	.18**	.30**	--	.15**	.28**
5. Syllabi	.02	.13	.14*	.24**	--	.09
6. Student Evaluations	.18**	.36**	.45**	.44**	.20**	--

Note. Results below the diagonal represent Pearson correlations. Results above the diagonal represent partial correlations controlling for responses on the Teacher Behavior Checklist and Ten Item Personality Inventory. * = $p < .05$. ** = $p < .01$.

Additionally, we found that those who were demonstrated excellent teachers had higher MTC scores. See Table 2 for specific results.

Table 2. *Demographic Comparisons on the MTC*

	Receive teaching award (n = 95)	No teaching award (n = 113)	
Training	6.74 (1.49)	6.02 (1.72)	3.24(0.45)**
Instructional Methods	7.01 (1.79)	5.60 (1.88)	5.50(0.77)**
Assessment	6.28 (1.39)	5.18 (1.57)	5.35(0.77)**
Content	7.48 (1.76)	7.18 (1.80)	1.24(0.17)
Syllabi	8.18 (1.41)	8.16 (1.27)	0.11(0.02)
Student Evaluations	5.25 (1.13)	4.47 (1.84)	3.61(0.50)**

Note. * = $p < .05$. ** = $p < .01$.

Scientific or scholarly significance of the study or work
Our current research constitutes the first empirical investigation of a comprehensive definition of competent teaching in the field of psychology. These results illustrate that even experienced faculty might benefit from using the MTC to facilitate self-reflection about teaching, which is a process that could lead to improvement. Motivating and documenting such improvement is precisely the intended purpose of the MTC, and we hope that this research will encourage utilization of the MTC to that end.

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Educational alienation and engagement: A critical discourse analysis of students' talk about education experiences.

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Students in HE are positioned within various discourses of marketization, commodification and subjectification. This can lead to alienation and lack of engagement with what higher education has to offer. In this paper we present a critical discursive analysis of students' talk about transition to and experiences of relationships in higher education (HE). We propose that the concept of alienation is under-researched compared to the concept of engagement and needs to be developed in order to better understand how hegemonic practices influence and are influenced by students' discourse and meaning-making. It is suggested that the outcome oriented education system is designed to perpetuate the Foucauldian notion of 'docile bodies' prepared to enter employment.

Extended Summary

Objectives or purposes

Transitions to and students' engagement with HE is a multi-faceted and contested field that has become a relatively recent preoccupation of scholars and practitioners. Failure to engage at university arises from an intersecting range of factors including but not limited to previous educational experience, social and personal capital. Less attention, however, has been given to the historically, socially and politically discursive practices that both shape and are shaped by these understandings of transitions and engagement, and their relationship to wider concepts such as alienation.

Perspective(s) or theoretical framework

The theoretical framework of this research draws on Marx' (1975) theory of alienated labour and Foucault's (1977) conception of the 'docile body' to examine a range of contemporary discourses on HE which position students as both consumers and commodities within discursive practices linked to neoliberal educational systems and capitalist economies. Foucault's concept of docile bodies is used here to describe the assemblage of learning, teaching and assessment practices enacted across HE settings which give rise to the intended and unintended consequence of producing improved and highly employable student 'bodies' capable of joining the workforce. Foucauldian analytics of power will also be used to interrogate the ways in which these discursive practices are viewed, understood, adopted and resisted, and to examine the operation and interplay of discourses which simultaneously position students as subjects of HE practices in terms of learning, teaching and assessment and the regulatory regimes surrounding these; customers of HE, with associated consumer rights and representation; and commodities of HE where outputs such as entry tariff points, fee income, exit award, and evaluations of the university become valued properties of HE institutions. Marx' notion of alienated labour will be used as a lens to further explore students' engagement with or estrangement from these discursive practices.

Methods, techniques, or modes of inquiry

The analytical focus of this project is informed by the critical discourse analysis approach outlined by Fairclough (1993), where language is regarded as constitutive of social identities, social relations and systems of knowledge. The approached outlined by Fairclough proposes a systematic analysis of (spoken) text, discursive and social practice and how these are interlinked and shaped by ideology and power.

Data sources, evidence, objects, or materials

Semi-structured interviews and focus groups were conducted with 10 female and 4 male undergraduate students who were asked to reflect on their reasons for attending university, their experiences of learning and teaching, their relationships with teachers and university lecturers, and their perceptions of self-development opportunities afforded through their engagement with university. The purpose of this was to examine the interplay of discourses that are constitutive of experiences of transitioning to, and being a student within HE settings and to address the key questions of transitions and engagement.

Results and/or substantiated conclusions or warrants for arguments/point of view

This paper will focus on two major themes identified in the data: The *Choiceless Choice* and Students as *Partners* relationship*s* between students and teachers.

The *Choiceless Choice* refers to contexts where entering HE is seen as the only viable route to a happy, fulfilled and economically rewarding life, which bestows respect and sustainability in the longer term. Parental wishes and school expectations contribute to these discourses, which at the same time provide the illusion of opportunity and lack of viable alternative.

Students as partners describes processes by which students may be empowered or alienated through specific teaching pedagogies and practices. Students participating in this study tended to draw on discourses of alienation when their relationships with tutors were distant and anonymous, and in turn inscribed them as docile bodies, subjects, consumers and commodities. Partnered approaches on the other hand draw on mutual reciprocity and respect between tutor and student and appeared to mitigate against alienation.

Scientific or scholarly significance of the study or work

This research makes a significant contribution to our understanding of students' alienation with university through social practices which cast them as docile bodies in a marketized education system.

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Symposia

Symposium 1

Understanding group work in Education: Psychological Perspectives on Group Work Processes

Organizer: *Sally Wiggins*; Chair*: Stefan Blomberg*; Discussants: *Regina Pauli & Marcia Worrell;* Room: SE 1.006/1.007

This symposium is focused on group work in education and on the ways in which psychological research can provide evidence-based improvements to teaching and learning practice in groups. We focus specifically on the processes of group work at different stages of pedagogical processes and from different perspectives: how students understand the purpose of group work, how students agree or disagree with each other when working in groups, and with teachers assess students who are engaged in group work. Group work and the processes surrounding group work are thus both educational tools for psychology and a focus for psychological research. There are two main aims of this symposium: 1) to showcase empirical psychology research on different areas of group work processes, and 2) to illustrate how psychological research on teaching and learning issues can benefit other disciplines. The symposium brings together researchers based in the social psychology research group at Linköping university (Sweden), in collaboration with researchers in England and Scotland. It will cover group work in different educational settings, from problembased learning groups in psychology and engineering at University level to Swedish school group work. As such, we demonstrate how psychological research into teaching and learning issues can have a wider benefit beyond the psychology teaching community.

1. Problem-based learning as means and objective: the purpose of tutorial groups in psychology.

Michael Rosander & Eva Hammar Chiriac

Linköping University

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). 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. Identification with the group determines how the membership influences the students' actions and thoughts. 147 students from 24 tutorial groups participated in the study, providing 399 statements in response to the question 'What is the purpose of tutorial groups?''. Data were analysed using thematic analysis. The results showed a focus on both learning and social influence. Learning involved the tutorial as both an objective and as a means. Social influence is important for a tutorial to become a well-functioning group. PBL creates conditions for autonomy; a well-functioning tutorial group fosters feelings of relatedness and using the group as a place for discussion, reflection, and expression of one's thoughts and knowledge contributes to feelings of competence. All three aspects are important for creating motivation to learn in terms of intrinsic self-regulated motivation. By creating conditions for group identification, local norms are more easily internalised, which also helps motivation to become intrinsic. A tutorial group as a well-functioning learning environment requires both the group as an objective and as a means.

Extended Summary

Objectives or purposes

How new students are introduced to problem-based learning (PBL) and how their expectations are received can affect the way they approach the subject matter and how they relate to the tutorial (Azer, 2009). The aim of this study was to investigate how first-year students view the purpose of tutorial groups in PBL.

Perspective(s) or theoretical framework

In tutorial groups, the dynamic interplay is considered a part of the task and is an incitement for learning (Azer, 2009). A tutorial has the potential for both a strong positive and negative social influence (Hammar Chiriac, 2014), and can provide a learning environment in which interest in the subject matter and intrinsic motivation are more probable (Schmidt & Moust, 2000), but it could also involve extrinsic motivation in which social pressures are the main motivator to study (Sobral, 2004). In terms of the self-determination theory, feelings of autonomy, relatedness and competence are important for internalisation and intrinsic motivation (Ryan & Deci, 2000). Identification with the group determines how the membership influences the students' actions and thoughts (Leach et al., 2008). A positive influence can lead to helping behaviour. Social influence can also result in a more uniform group with potential positive effects, such as stronger cohesion, but also group members less likely to express their own ideas and beliefs (Kraut, 2003).

Methods, techniques, or modes of inquiry

Data were collected in connection with a scheduled part of an introductory course. The tutorial groups were instructed to reflect on the question: ''What is the purpose of tutorial groups?'' jointly in the tutorial, then each individual wrote down her or his own thoughts as answers to the question.

Data sources, evidence, objects, or materials.

147 students from 24 tutorial groups from the Psychologist programme at Linköping University, Sweden, participated. They provided 399 statements. Data were analysed using thematic analysis (Braun & Clarke, 2006) resulting in 407 codes, from which two main themes – social influence and learning – were constructed.

Results and/or substantiated conclusions or warrants for arguments/point of view

The results showed a focus on both learning and social influence. Learning involved the tutorial as both an objective and as a means that is using the tutorial to learn about group processes, and as a vehicle for learning academic knowledge. Social influence is important for a tutorial to become a well-functioning group, together with opportunities to use the group as an objective in and of itself to learn to work in a group, cooperate, solve problems and communicate. Social support and feelings of togetherness create conditions for intrinsic motivation, as well as stronger identification with the group.

Scientific or scholarly significance of the study or work

To be able to use a tutorial group as a means to achieve academic knowledge, social influence, in terms of social support, togetherness and inspiration, is important. The nature of PBL creates conditions for autonomy; a well-functioning tutorial group fosters feelings of relatedness and using the group as a place for discussion, reflection, and expression of one's thoughts and knowledge contributes to feelings of competence. All three aspects are important for creating motivation to learn in terms of intrinsic self-regulated motivation. By creating conditions for group identification, local norms are more easily internalised, which also helps motivation to become intrinsic. To be able to

achieve all of this, there is a need to focus on more things other than just academic knowledge – the group as an objective in and of itself is equally important. A tutorial group as a well-functioning learning environment requires both the group as an objective and as a means.

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2. 'Doing' disagreement without being disagreeable: How students deal with conversational norms in group work.

Robert McQuade[1], Sally Wiggins[2], & Esther Ventura-Medina[1]

[1]University of Strathclyde; [2]Linköping University

The growing prevalence of group work in psychology places requirements on students to learn not only their subject matter, but also social and educational skills such as working with their peers. In problem-based learning (PBL), a crucial element is that students should challenge each other in terms of ideas or assumptions (Azer, 2004). Through disagreeing, it is argued that students will develop a more sophisticated understanding of the knowledge. Disagreements in conversation, however, have already been shown by conversation analytic work to be socially troublesome (Pomerantz, 1984), so it is vital that students learn to disagree' appropriately' (Marra, 2012). The aim of this paper is to demonstrate how research in social psychology and discourse can provide empirical insights into how students might learn to interact more effectively in group-work settings. The paper reports on analyses from a project that aims to understand how engineering students develop the 'soft skills' of group work alongside their academic knowledge by examining the interactional practices and processes within PBL tutorials. In particular, we focus on how students 'do' disagreements in tutorial interaction. The data is taken from 30 hours of video-recorded data from PBL tutorials at a Scottish university. Using conversation analysis, we focus on sequences in which students disagree with one another, and illustrate the different ways in which this is achieved. The paper will discuss the interactional barriers to disagreeing with other students in group work and will offer insights from empirical data to illustrate how these might be overcome.

Extended Summary

Objectives or purposes

The aim of this paper is to use psychological theories and methods to demonstrate how group work in educational settings can be understood and analysed as social interaction. It will focus on how disagreements are produced in conversation and how this can help students develop more effective ways of learning in group settings while developing the skills and competencies of being a team player. At the same time, this understanding of how disagreements occur can inform educational practice for tutors. A secondary aim is to encourage teaching staff to use psychology to help develop empirical-based research in PBL and related student-centred approaches to learning (cf. Wiggins et al., 2016).

Perspective(s) or theoretical framework

The paper is based on conversation analysis (e.g. Sidnell, 2011) and discursive psychology (Wiggins, 2017), emphasizing the importance of analyzing social interaction in situ, as a collaborative achievement, and of the benefits of using naturally-occurring interaction as the main data source. The present analytical approach models that of Pomerantz (1984) in uncovering the intricacies of linguistic design during difficult social situations (i.e. group disagreements). Close reference is also made to the analytical works of Benwell & Stokoe (2002) within university tutorial settings, which enables an exploration of the psychological 'business' involved in managing 'student' identities (i.e. being recognised as an accepted 'team-player'), and the implications this has when conflicts are encountered.

Methods, techniques, or modes of inquiry

The paper uses a qualitative design, focusing on examining the processes through which students develop 'soft skills' of group work. Although based in an engineering context, the project uses psychological theories and methodologies – conversation analysis and discursive psychology – to examine the data. Psychological theory is therefore used as the means through which we can examine teaching and learning in social contexts at a very fine-grained level.

Data sources, evidence, objects, or materials

This paper will report on findings from the analysis of 30 hours of video-recordings of students in PBL tutorials at a Scottish university. Students were video-recorded while they were engaged in their usual PBL tutorials as part of their degree programme. The video recordings were transcribed, coded and analysed according to conversation analysis and discursive psychology. Sections of the tutorials in which students disagreed with one another were selected and analysed as a dataset. These were also compared with examples in which students agreed with one another, in the aim of compiling a comprehensive catalogue of student interaction. The analysis illuminates the conversational strategies used by students in managing the dilemma of approaching disagreements, whilst maintaining their status as fellow 'team-player' (Benwell & Stokoe, 2002).

Results and/or substantiated conclusions or warrants for arguments/point of view

The results of this paper will focus on detailing the forms and frequencies of disagreements during the conversations in PBL tutorial interaction. Examples of disagreement sequences will be given to illustrate the normative ways in which students do (or do not) disagree with one another. The analysis will also shed light on 'bad' practice, where the typical norms for disagreement are violated, causing major implications for group learning (Marra, 2012). The paper will conclude with a discussion on how an understanding of conversational norms and social interaction – grounded in psychological theories – can inform our practices and support of student learning in PBL and other forms of group-based teaching.

Scientific or scholarly significance of the study or work

This paper contributes to the development of evidence-based practice in teaching and learning settings, and specifically uses empirical research to inform educational practices in group work. The work has relevance for practitioners using problem-based learning and other forms of group work, in any discipline. Likewise, this work could potentially inform professional practices beyond education- by addressing the 'soft skills' deficiency amongst graduates.

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3. Group work assessment of knowledge and abilities.

Eva Hammar Chiriac, Johans Forsell, & Karin Forsund

Linköping University

Group work can promote learning and socialization among students. When group work is used as a pedagogical practice in education, teachers may be expected to assess students' individual knowledge even if learning has occurred in cooperation with other students. This assessment process of reconciling mandatory demands for individual assessment of learning with cooperative working practices (group work) creates a dilemma for teachers. This paper reports on research which aims to study criterion-based assessment of knowledge and abilities gained by working in groups and the training of teachers' ability to assess group work. The project is conducted within Swedish schools and high schools. This paper will focus on the following issues: a) if a short educational intervention can influence teachers´ proficiency of assessment of abilities and knowledge learned in groups and b) if teachers´ talk about assessment in group work is progressed and help them develop new strategies to cope differently with the problems and dilemmas tied to the subject. Data were obtained through interviews with teachers before and after they participated in the intervention and group project. The results will illustrate that concepts and mode of language used when talk about assessment in group work might influence pedagogical practices. Implications for the use of group work assessment practices will be discussed, with a particular focus on how psychological research can benefit teaching and learning in psychology and other disciplines.

Extended Summary

Objectives or purposes
The individual assessment of learning which occurs in groups is a challenge and can create dilemmas for teachers (Forslund Frykedal & Hammar Chriac, 2011). A particular challenge is how to disentangle the individual's learning from the joint work conducted in groups (Ross & Rolheiser, 2003). The studies presented in this paper are a part of a larger research project concerning "Assessment of knowledge and skills in group work – an intervention study in the classroom everyday practice" (Hammar Chiriac & Forslund Frykedal, 2017). The aim of this project is to study assessment of knowledge and abilities gained by working in groups, but also if it is possible to train teachers' and/or students ability to assess by use of a shorter education. The aim with this presentation is to focus on a) if a short educational intervention can influence teachers´ understanding of assessment of abilities and knowledge learned in groups and how to develop new strategies to cope differently with the problems and dilemmas tied to the subject and b) how teachers talk about assessment in group work.

Perspective(s) or theoretical framework
The theoretical framework for the study is Social Interdependence Theory, one of the dominant influences on cooperative learning (Johnson & Johnson, 2004). According to this theory, group members develop a degree of interdependence when it occurs to members that working together on an assignment will enhance the probability that they will achieve their joint goals. The study's framework is also based on the social constructivist perspective on learning where knowledge is considered to be constructed in a joint process along with others (Burr, 2015).

Methods, techniques, or modes of inquiry
This project has a longitudinal quasi-experimental design and an intervention is central. The intervention, in the form of a short educational and training session for teachers, was randomly implemented in some classes in each cohort, while the other classes served as control groups. The main content of the educational intervention was theories of how to assess abilities and knowledge learned in groups. Data for this paper were obtained by individual interviews with teachers before and after participating in the intervention and group project.

Data sources, evidence, objects, or materials
The participants were 14 teachers from Swedish schools in different social and geographical areas: a) six teachers from upper higher education from six schools and b) eight teachers working in years five and eight in five compulsory schools. They were both female and male teachers with several years' of teaching experience.

Results and/or substantiated conclusions or warrants for arguments/point of view
Preliminary results suggest that the way in which teachers talk about assessment in group work might influence pedagogical practice and that a change in teachers' assessment practice may occur if teachers change their perspective on group work assessment. A shift from accentuating students working together and producing a joint product or a presentation to emphasizing what knowledge each student may have learnt during the group work may make it more lucid what to assess in criterion based assessment. Results also suggest that teachers use different mode of languages and employ a general level of discourse when talking about assessment in group work. Alternatively, a common academic language could serve as an important tool as well as a means for teachers to successfully develop the assessment practice for group work. Consequently, teachers' use of language

may pose both opportunities as well as challenges in appropriating strategies for an assessment fitting learning in cooperative situations.

Scientific or scholarly significance of the study or work

The paper contributes with both scientific and applied implications, as it sheds light on a sparsely researched area (Van Aalst, 2013), assessment of knowledge and abilities learned during group work. This seems to be a basic problem in education both upper secondary high school and compulsory school. A particular challenge seems to be how to disentangle the individual contribution from the joint work when assessing (Ross & Rolheiser, 2003).

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Symposium 2

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

Organizer: *Morag Williamson, Lenka Sokolová* & Jock McGinty; Chair: *Stephan Dutke*;
Discussant: ??; Room: SE 1.006/1.007

In secondary schools in many European countries, psychology is a popular subject. Pre-university, or pre-tertiary, psychology education (PTPE) has become well-established and popular, as school students find it an interesting, enjoyable and useful subject. A proportion of school students go on to university to study psychology, while some study other disciplines, and others go into employment or training. Thus they experience different kinds of "journeys to psychology". Curricula and pedagogies in PTPE vary between countries too. Similarly, teachers of psychology make their way into this career via diverse routes, and this seems to be the case in psychology more so than for teachers of other subjects.

Psychology educators claim the subject has great value in terms of helping young people develop a wide range of skills as a sound basis for progression to higher education, training or employment. It is also asserted that learning psychology at school builds psychological literacy, such that students acquire 'life skills' which can support their mental health wellbeing throughout the lifespan.

In this symposium, we present research into different aspects of PTPE in Europe, using a variety of methodologies and involving a range of stakeholders: teachers, headteachers, psychologists, and pre-tertiary students, from several countries. Our findings add to the sparse literature on PTPE by providing insights into the diverse "journeys" experienced by psychology students and teachers in Europe's schools.

1. The student journey into psychology starts at school.

Morag Williamson, Dorothy Coombs & Renate Schrempf

Edinburgh Napier University

In several European countries, as well as in the United States and other countries, psychology has been a popular school subject for students in the 15-19 years age range, for many years. Many thousands of young people thus take their first steps on their journey into psychology by studying it at secondary school. Yet psychology academics and professional practitioners often speak of "psychology education" as something that starts only at university, and despite the popularity and long history of pre-university, or pre-tertiary, psychology education (PTPE) in schools, research in this area is sparse. The aim of the current research was to investigate awareness of, and attitudes towards, PTPE, amongst two different groups of stakeholders in Europe: psychologists' associations in several countries, and school headteachers in one specific country. Attitudes to PTPE were found to vary considerably, both across countries and within the single country, suggesting that psychology is not (yet) universally perceived to merit the status of a core subject in the school curriculum. The studies were supported by EFPA BEA and the British Psychological Association (Scotland) respectively.

Extended Summary

Objectives or purposes
The aim of this paper is to present findings from two studies of awareness of, and attitudes to, pre-tertiary psychology education (PTPE), firstly amongst national psychologists' associations who are

members of the European Federation of Psychologists' Associations (EFPA), and secondly amongst secondary school headteachers in one country, Scotland, where psychology is widely offered as a subject in secondary schools.

Perspective(s) or theoretical framework
In several countries in Europe, psychology has been a popular subject at school for students in the 15-19 years age range, including at the level required for university entry (EQF level 4), for many years.Given its long history, popularity and success, it is paradoxical that PTPE has been given so little attention in research; the limited literature contrasts starkly with the extensive studies into university level psychology education. Some research does exist, on questions of curriculum, development of transferable skills, discipline-specific pedagogy, psychology teacher education, and the student exprience of their psychology course (e.g. BPS, 2013; Jarvis, 2007; Radford, 2008; Sokolová et al, 2017). PTPE is seen (e.g. by Banyard, 2008) as an effective way of 'giving psychology away, following Miller's exhortation (1969). A further concern is that psychology suffers perceived low status as a school subject (Sokolová, 2014): in many European countries it is not offered in high schools at all, and in countries where it is available, it is not compulsory, nor is it required for entry to university psychology courses. Availability of teacher education and professional development is variable and often poor (Williamson et al, 2011).

Methods, techniques, or modes of inquiry
Study 1 comprised an online structured questionnaire to national psychologists' associations who are all Member Associations (MAs) of EFPA. Items required free-text responses, about the extent of PTPE provision in their country and the role of the Association (if any) in developing / supporting PTPE. Study 2 consisted of an online quantitative survey of secondary school headteachers in Scotland. Questionnaire items asked about PTPE provision in their school as well as their perceived value of the subject to students, and perceived value of specialist teacher education in psychology.

Data sources, evidence, objects, or materials
Qualitative responses from Study 1 were interpreted by means of thematic analysis (Braun & Clarke, 2006). From Study 2, the quantitative questionnaire responses were analysed statistically.

Results and/or substantiated conclusions or warrants for arguments/point of view
Responses from the MAs showed that PTPE was available in a minority of European countries. The associations' involvement in pre-tertiary support and curriculum development was variable but in most cases limited. In the survey of school headteachers (Scotland) most respondents offered psychology courses in their school. Popularity of the subject was recognised but there was often difficulty in allocating specialist staff.

Scientific or scholarly significance of the study or work.
This paper makes a useful contribution to the literature on the important but neglected topic of PTPE, providing insights from two different groups of stakeholders. It appears that for many young people, the start of their journey into psychology is ignored or undervalued by psychology academics and practitioners. School headteachers appear to value psychology at least as highly as other school subjects, but the lack of suitably-qualified staff can make it difficult to meet demand from students. Both sets of results raise further questions that are in need of research, and both raise concerns over the availability of opportunities for young people to study psychology at school in future.

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2. Who are the guides on the journey towards psychology? Professional trajectories of psychology teachers in Europe.

Lenka Sokolová

EFPTA, Comenius University in Bratislava

Pre-tertiary teaching of psychology is considered to be an under-researched area. There are many differences in the standards and traditions of psychology teaching and psychology teachers training across Europe. However, only a few studies have been conducted to analyse various aspects of pre-tertiary psychology education (e. g. Williamson et al., 2011, 2015). Expert teachers of psychology from different European countries, where pre-tertiary psychology teaching has a long tradition, were asked to produce semi-structured narratives describing the stories of their journeys to the teaching of psychology. A general inductive approach was applied to analyse the narratives and to examine cultural differences in the professional trajectories, attitudes and beliefs among pre-tertiary psychology teachers, and to discuss advantages and disadvantages of concurrent and consecutive models of psychology teachers training. The study was supported by Slovak national grant agency VEGA (grant no. VEGA 1/0409/17).

Extended Summary

Objectives or purposes
The aim of this study is to analyse the routes towards becoming a psychology teacher among expert psychology teachers from different European countries, to compare their motivation, initial teacher

training, professional experiences, attitudes and beliefs about teaching psychology at pre-tertiary level.

Perspective(s) or theoretical framework

Teacher training qualification requirements differ across European countries. In the concurrent model, the professional education component is provided along with the study of the subjects the prospective teacher is intended to teach. In the consecutive model, students study their subject first and take a professional course in education after completing their academic degree (Eurydice, 2012, 2013). The tradition and the status of psychology as a school subject varies too (Williamson et al., 2011). Despite the diversity in the pre-tertiary teaching of psychology in many European countries psychology is very popular at universities (Dutke, 2017), however, students of psychology hold many stereotypes and misconceptions about psychological science and professional psychologists. The objective of secondary school teaching of psychology is to develop psychological literacy (Cranney & Dunn, 2011; Chrz, Nohavová & Slavík, 2015), transferable skills (Jarvis, 2011), to prepare students for studying psychology and related disciplines at university, and also to build a more realistic image of psychology as a science and profession (Sokolová, 2013). To fulfil these aims it is advisable to discuss the content of pre-tertiary psychology courses (Williamson et al., 2015) and also the qualification of psychology teachers who deliver the content.

Methods, techniques, or modes of inquiry

Semi-structured written narratives were used to get a deeper insight into beliefs and professional stories of psychology teachers. Participants to the study were recruited via European Federation of Psychology Teachers Associations (EFPTA) member associations from different European countries. Each participant was experienced and qualified psychology teacher based on national teaching qualification standards.

Data sources, evidence, objects, or materials

Written narratives were collected in English via e-mail communication. A general inductive approach (Thomas, 2011) was used to analyse the narratives and to examine cultural differences in the professional trajectories, attitudes and beliefs about pre-tertiary teaching of psychology among pre-tertiary psychology teachers.

Results and/or substantiated conclusions or warrants for arguments/point of view

Based on the previous surveys on psychology teachers (Williamson et al., 2011; Sokolová, 2014) there are cross-cultural differences in the teacher training and professional needs of psychology teachers. Despite these differences common trends were identified in psychology teachers' beliefs and attitudes. The concurrent and consecutive models in psychology teachers training are discussed.

Scientific or scholarly significance of the study or work

Pre-tertiary teaching of psychology is considered to be an under-researched area. There are many differences in the standards and traditions of psychology teaching and psychology teachers training across Europe, however, only a few studies have been conducted to analyse various aspects of pre-tertiary psychology education (Williamson et al., 2011). This study aims to contribute to the research area of pre-tertiary teaching of psychology with relevant data on the professional development of psychology teachers in Europe.

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3. The role of character strenghts in the A-level psychology classroom.

Jock McGinty

EFPTA, Watford Grammar School for Boys

A focus of positive psychology is that character strengths contribute to individual well-being and happiness (Lounsbury et al., 2009) and the suggestion that character strengths are malleable traits (Peterson & Seligman, 2004) encourages the idea that character can be developed and nurtured in schools. The primary research aim was to examine the associations of character strengths with school satisfaction, academic self-efficacy and academic performance in psychology in an English school. Secondly, to examine which character strengths pre-tertiary students use to improve academic performance and thirdly to examine the developmental aspect of character strengths. A sample of 36 A-level Psychology students aged 16-17 years completed three surveys: the VIA Inventory of Strengths for Youth (VIA-Youth), the Brief Multidimensional Students' Life Satisfaction Scale (Seligson, Huebner, & Valois, 2003), and the Academic Self-Efficacy Scale (Jerusalem & Satow, 1999). Academic performance was operationalised using grade point averages (GPA). The strongest predictors of school satisfaction were Prudence, Honesty, Hope and Self-Regulation. Academic self-efficacy was predicted by Hope, Zest and Love of Learning whereas Fairness was the strongest predictor of academic performance. A model using character strengths and academic self-efficacy was found to pr

dict improved academic performance. The findings support the strength of Social Intelligence as an important factor in the maturational process. Character strengths in the teaching of psychology show much promise through the use of active learning strategies and may help teachers to understand psychology students from the broader perspective of positive psychology.

Extended Summary

Objectives or purposes
The purpose of the present research is to show the associations of character strengths with satisfaction with school, academic self-efficacy and academic performance. Secondly, to investigate which character strengths A-level students use to improve academic performance in schools. Thirdly, to build on and extend previous research, so that the developmental aspect of character strengths is highlighted.

Perspective(s) or theoretical framework
The science and practice of positive psychology has great promise for education and seeks to promote healthy individuals and communities, for example children and schools. If schools could teach both the skills of well-being and the skills of achievement, positive education would occur (Seligman, Ernst, Gillham, Reivich & Linkins 2009). It is thought that through life experiences and our environmental setting, strengths can be shaped (McCullough & Snyder, 2000) and this encourages the idea that character can be developed and nurtured in schools. Similarly character strengths can help young people to thrive and are associated with the smooth transition to adulthood (Park & Peterson, 2009). Those character strengths that help pre-tertiary students to flourish serve as a key resource in schools and can be used to develop a model that may allow the prediction of academic success.

Methods, techniques, or modes of inquiry
A correlational design with a cross-sectional survey methodology was used. The sample was 36 A-level psychology students aged 16-17 years old from Watford Grammar School for Boys, England. The VIA-Youth was completed online and the BMSLSS and ASE pen and paper surveys were completed one single occasion during a lesson. October and April assessment grades formed the academic performance data. Partial correlations, stepwise multiple regression analysis and discriminant function analysis were used.

Data sources, evidence, objects, or materials
Students completed the VIA Inventory of Strengths for Youth (VIA-Youth), the Brief Multidimensional Students' Life Satisfaction Scale (Seligson, Huebner, & Valois, 2003), and the Academic Self-Efficacy Scale (Jerusalem & Satow, 1999). Academic performance was operationalised using grade point averages (GPA).

Results and/or substantiated conclusions or warrants for arguments/point of view
Patterns of partial correlations across school satisfaction, academic self-efficacy and academic performance in psychology show that character strengths such as Hope, Perseverance, Self-regulation Prudence and Love of Learning appear to be the most valued. Overall, the regression analyses found that the strongest predictors of school satisfaction were Prudence, Honesty, Hope and Self-Regulation. In terms of academic self-efficacy, Hope, Love of Learning and Zest were found to have significant predictive value. In the case of academic performance, Fairness was the strongest predictor. The findings from the discriminant function analysis were that Fairness, Perspective, Creativity, Social Intelligence, Judgement, Humour, Forgiveness, Beauty, Love of Learning, Bravery, Hope,

Teamwork, Humility, Gratitude, Kindness and Academic Self-Efficacy formed a model to predict improved student academic performance between October and April.

Scientific or scholarly significance of the study or work
From the perspective of positive psychology, the processes and predictors of flourishing are becoming more fully understood in the context of society. Schools are uniquely placed to reach out to teach positive psychology and good character is seen as supporting the important positive adaptation process of children and adolescents in schools through positive education (Green, Oades, & Robinson, 2011). An awareness of character strengths and how to use them when learning psychology has positive implications for the mental health of our students and develops their mental health literacy. These first findings on this topic in this age group may help teachers to understand psychology students from the broader perspective of positive psychology. This is helpful as it shows that good character in the context of schools has important implications for the teaching of psychology. Learning occurs not just within people but among them, and character strengths can facilitate the process of active learning.

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Symposium 3
Psychology Literacy in Action I

Organizer: *Jacqui Taylor*; Chair: *Jacqui Taylor*; Room: SE 1.006/1.007

While many psychology educators are keen to embed psychological literacy into their curricula, there are few practical resources. This first talk from Taylor & Hulme will present case studies from their freely available 'Compendium of Psychological Literacy Case Studies' (Taylor & Hulme, 2015). The case studies have been categorised and the authors illustrate the variety of methods of learning, teaching and assessment used to develop psychological literacy. The next three talks are extended and updated versions of case studies from the compendium. The first talk from Chiriac, Rosander, & Wiggins will highlight what social and group psychology can offer in terms of applicable knowledge and the development of psychological literacy in students through the use of a group selection exercise. Paper 3 from Pauli, Worrell & Raymond-Barker highlghts an approach where students work as partners with academics and they cover pedagogies that influence student perceptions of their psychological literacy. Paper 4 from Rosenkranz, Dunn, Fielden, James &Warin proposes a novel approach to enhancing psychological literacy - through entrepreneurial learning. Paper 5 from Searight uses Problem-Based Learning to teach critical analysis skills in a case study of gay conversion therapy; this also includes an often overlooked component of psychological literacy – namely, the ethical implications of applying psychological knowledge. Finally, Geiss reflects on how psychological literacy should be understood for teaching pre-tertiary psychology and how Nolting's model of the mental system could be used to promote psychological thinking and reflective psychological attitudes.

1. Case studies to illustrate psychological literacy in action: Sharing acitivities to develop psychological literacy across the curriculum.

Jacqui Taylor[1] & Julie Hulme[2]

[1]Bournemouth University & [2]University of Keele

This talk introduces a set of case studies that were submitted to us following requests in psychology conferences and publications, and through professional networks. The full versions of the case studies make up the first version of a Psychological Literacy Compendium of Practice that is available online at http://eprints.bournemouth.ac.uk/22906/. The first part of this talk presents a brief synopsis of each case study and categorises case studies to allow those considering introducing psychological literacy activities to easily compare and contrast different approaches. Categories include: when the activity takes place in the curriculum; whether it is a core or elective unit, or optional activity, and assessment strategies. In the second section, we evaluate each case study in terms of which of the nine psychological attributes identified by McGovern et al (2010) each case study illustrates. This information can be used to assist curriculum design and quality assurance procedures, and highlights the need to define the attributes of psychological literacy that activities are designed to address. Finally, we conclude with a discussion and some suggestions for future work and activities. This talk aims to highlight practical ideas to develop psychological literacy and to encourage academics and practitioners to use the Compendium to develop activities to embed psychological literacy within the Psychology curriculum.

Extended Summary

The aim of this talk is to share good practice and discuss with delegates their own activities to develop and assess psychological literacy. This talk introduces a set of case studies that were submitted to us following requests in psychology conferences and publications, and through professional net-

works. The case studies highlight the staff perspective (e.g. what worked well or could be improved), evaluations of student experience, and evaluations of performance and employability prospects. The full versions of the case studies make up the first version of a Psychological Literacy Compendium of Practice that is available online at www.psychologicalliteracy.com. Illustrative details and photos from selected case studies will be presented.

Summary tables will categorise case studies to allow educators considering introducing psychological literacy activities to easily compare and contrast different approaches. Categories include: when the activity takes place in the curriculum; whether it is a core or elective unit, or optional activity, whether it is developed across individual activities or across whole cohorts and degrees, and assessment strategies. Psychological Literacy lends itself more naturally to some areas in psychology than others and the units where Psychological Literacy is covered in the Compendium reflect this. Five of the 13 case studies took place in occupational psychology or employability units and two in social psychology; and one each in developmental and educational psychology and mental health. Generic units on experiential learning, psychological enquiry and psychology in everyday life also naturally covered the topic. Interestingly, there were no submissions from biological or cognitive areas. Although one case study reports a whole-course approach and another involves two cohorts of students, generally case studies highlighted Psychological Literacy in a specific unit at one level. Psychological Literacy coverage was mainly in the final year of undergraduate degrees, and the majority of case studies were based on optional units or voluntary extra-curricular activities. This suggests that students could proceed through a degree without exposure to Psychological Literacy-based units. Also, not all units covering Psychological Literacy activities were assessed. The level of assessment varied and although some were novel (e.g. Pecha Kucha), reflective pieces were the most usual form of assessment method. Teaching and learning activities also varied and included many interactive techniques, such as: critique of psychology in the media; volunteering or work based learning; peer mentoring and project-based learning. Also, we evaluated each case study in terms of which of the nine psychological attributes (identified by McGovern et al., 2010) each case study illustrates. This information can be used to assist curriculum design and quality assurance procedures, and highlights the need to define the attributes of psychological literacy that activities are designed to address.

Finally, the talk will conclude with some suggestions for future work and activities. It is hoped that after viewing the talk academics and practitioners will be encouraged to use the Compendium to develop activities to embed psychological literacy within the Psychology curriculum. Additionally, we will request new international case studies as the current Compendium includes only case studies from the UK.

2. Forming groups: Enhancing psychological literacy through a group selection exercise.

Eva Hammar Chiriac, Michael Rosander & Sally Wiggins

Linköping University

Social and group psychology has much to offer in terms of applicable knowledge and the development of psychological literacy in students. One area that is particularly suited for application is the formation of groups: how we select group members, and how we understand how group roles can impact on the effectiveness of group work. In light of many university courses using group work as part of teaching and learning activities, this is an ideal opportunity in which to apply psychological knowledge to the students' own learning practices. This paper reports on the use of a group selection

exercise as part of a social/group psychology course at Linköping University. The students are enrolled in the psychologist programme - a five-year educational programme that results in students becoming licensed psychologists – which uses problem-based learning (PBL) throughout its entirety. PBL is a pedagogical approach that is based on problem-solving, self-directed learning and group interaction. The group selection exercise involves: a lecture, the group-selection exercise (in which students must allocate themselves into groups of 6-8 people on the basis of their existing knowledge of group psychology theory), a whole-class reflection and finally a focused reflection on the task in their newly formed groups. This paper will report on each part of this task and will discuss how it enables students to put their understanding of group psychological theory into practice.

Extended Summary

Objectives or purposes
The aim of the exercise is to help students to understand inter- and intra- group processes, as well as the significance and consequences of group formation. This corresponds to the overall aim of the group and social psychology courses throughout the psychologist programme where the students use the group as both as an objective and a means. That is, they both examine and reflect on their own group processes as well as using the group for learning academic knowledge throughout the psychologist programme.

Perspective(s) or theoretical framework
The group selection exercise is based on theories of group formation and group composition as well as its consequences for academic outcome and social processes (Hammar Chriac, 2014; Wheelan, 1996). Group formation can be defined as principles and processes for dividing groups, while group composition is the result of the forming process. The group formation can affect processes that occur later on. Some aspects important to consider when forming a new group, besides the aim and task, are, for example, group size, homogeneity or heterogeneity regarding gender, ambition, ability (Gillies & Boyle, 2010; Takeda & Homberg 2014). In an educational context, the teacher usually allocates students to groups, often without clarifying the reason behind the group composition.

Methods, techniques, or modes of inquiry
The group selection exercise comprises four parts:

  a) A brief lecture on group composition, highlighting important aspects to be considered when forming a group.

  b) The students are given a few short but detailed rules, such as number of students in each group, and that the selection cannot be based on chance. It is made clear that the task is a collective one and that it is not complete until all (even absent) students have a new group. The teacher remains in the classroom, but only as an observer, taking notes on significant events and processes. If the students ask any questions the teacher only responds by referring to the rules. The students have a deadline (approximately 2 hours) when they need to present the newly formed groups.

  c) Once the new groups are formed, there is a whole-class reflection and discussion guided by the teacher. The discussion can be based on observations from the teacher, but also the students' experiences of 'what happened'. The dual purpose is to involve the whole group to make sure that the students get a chance to defuse the situation before leaving the room, and to prepare for the coming small-group reflection. In their newly-formed groups, guided by a tutor, they reflect further on the selection exercise.

  d) A few days later, for their first PBL tutorial, the group's task is to identify theoretical knowledge on group psychology and group formation to understand what happened during the exercise.

Data sources, evidence, objects, or materials

This presentation will focus on the application of psychological theory to a teaching and learning exercise, and as such there is no data that has been collected and analysed.

Results and/or substantiated conclusions or warrants for arguments/point of view

No data has been collected, though the presentation will report on our reflections and experiences of using this group selection exercise over many years. The opportunities for reflection help the students to see the significance of group processes and their consequences for the new groups and student cohort as a whole. Student reflections on the exercise show that it is an appreciated module and that it can contribute to gaining a deeper understanding and knowledge and thereby enhancing students' psychological literacy through a group selection exercise.

The purpose is not to get the best possible groups to work in, but to get a real group experience that can help the students to understand important aspects of group psychology. The students often opt-out of the opportunity to create groups based on the best possible criteria in favour of a simpler-structural criteria.

Scientific or scholarly significance of the study or work

This case study provides an example of how group psychological theories can be fairly easily applied to a classroom situation, providing an opportunity for students to learn theory and practice together, and to develop their psychological literacy that can then be used in their future professions.

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3. Students-as-partners pedagogies influence student perceptions of their psychological literacy.

Regina Pauli, Marcia Worrell & Brett Raymond-Barker

University of Roehampton

Perceived psychological literacy has been shown to develop as a function of studying psychology at undergraduate level (Morris et al, 2013). The present study aimed to evaluate the efficacy of students-as-partners (SaP) pedagogies in actively promoting the development of psychological literacy. In study 1, a cross sectional sample of 300 undergraduate students across three years of study concurrently completed a self-report questionnaire. In study 2, we adopted a cohort approach enabling the assessment of longitudinal learning gain as a function of classroom exposure to SaP processes. Results show that perceptions of partnership have a small, but measurable and statistically significant, influence over self-perceived psychological literacy outcomes; and this occurs without any specific regard to the understanding of partnership values which underlie these practices. These findings are robust and largely replicate in the longitudinal sample in study 2. Embedding pedagogical features of partnership in taught modules can thus be shown to be an effective mechanism for improv-

ing self-perceived psychological literacy. Implications for teaching and learning practice in higher education include a need to educate students in the potential benefits of SaP pedagogy.

Extended Summary

Objectives or purpose

Engaging students as partners can serve to enhance the learning experience in Higher Education and is thought to be beneficial with regard to personal development, employability, and the development of graduate attributes. However, evidence for the effectiveness of this claim in the UK is largely based on anecdotal accounts and/or small scale studies focusing on student engagement as an outcome variable. The purpose of this study is therefore to evaluate the extent to which the acquisition of self-perceived psychological literacy can be attributed to specific classroom pedagogies which have previously been associated the development of psychological literacy (e.g. Taylor and Hulme, 2015).

Perspective(s) or theoretical framework

We aim to increase our understanding of the impact of partnership pedagogical approaches by defining students-as-partners (SaP) in terms of practical teaching and learning methodologies, rather than values, allowing for the concept to be operationalized without regard for partners' understanding of the philosophical principles. We understand students-as-partners pedagogies as module-based teaching and learning approaches which directly focus on enhancing learning experiences by inviting students to reflect on, co-construct and participate actively in their own learning as distinguished from initiatives which involve students for the purposes of quality enhancement in general (e.g. as student representatives or informal peer mentors) or to promote context-based learning outside of accredited teaching such as students-as-(co-)producers (e.g. of research). These pedagogies are explicitly aimed at placing students in situations which develop their self-confidence, ability to apply knowledge, reflective practice and self-evaluation skills, which are considered to be critical foundations for the development of psychological literacy.

Methods, techniques, or modes of inquiry

Psychology students across all years of undergraduate study were recruited from two, post-1992 London based universities to take part in a questionnaire-based study in two year cohorts. Study 1 reports cross-sectional data from 300 participants, whereas Study 2 is a longitudinal study (n= 45) comparing initial responses with those obtained one year later.

Data sources, evidence, objects, or materials

We developed a measure of students' perceptions of partnership processes in the context of taught modules (SaP Processes Scale), measuring perceptions of opportunities for collaboration, applicability to the real world, reflective engagement, personal control and active learning within their current modules. We also measured students' perceived psychological literacy based on Chester et al (2013), graduate attributes, skills confidence and personal qualities associated with higher education, such as integrity, critical thinking disposition, interactional diversity, global citizenship, and self-determined academic motivation.

Results and/or substantiated conclusions

Results from both cross-sectional and longitudinal studies confirm that self-perceived psychological literacy increases linearly during undergraduate study of psychology (p<.0005). The data further support the hypothesis that experience of students-as-partners classroom pedagogies have a small, but significant effect on self-perceived psychological literacy accounting for 3% of the variance over and

above the 20% of variance accounted for by personal qualities such as self-determination, critical thinking disposition and integrity.

Scientific or scholarly significance of the study or work

The findings present clear implications for teaching and learning practice with respect to the utility of classroom-based students-as-partners approaches in developing self-perceived psychological literacy. We provide several recommendations for working towards greater partnership with students, particularly in relation to assessments and experiential learning; and identify avenues for future research in this area.

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Symposium 3

Psychology Literacy in Action II

Organizer: *Jacqui Taylor*; Chair: *Jacqui Taylor*; Room: SE 1.006/1.007

1. Enterprise challenges in psychology: Enhancing psychological literacy through entrepreneurial learning.

Patrick Rosenkranz, Alecia Dunn, Amy Fielden, Trevor James & Charlotte Warin

Newcastle University

Psychology as a discipline and profession is not readily associated with what is commonly known as entrepreneurship, the process of designing, launching and running new business ventures. However, developing aspects of an entrepreneurial mind-set and attitude are pivotal for a fully psychologically literate graduate: this mind set includes the ability to draw upon resources such as psychological knowledge and skills, and then use these to realize psychological ideas in the real world, i.e. benefiting themselves, their community or society as a whole. Entrepreneurial learning processes provide an opportunity for students in psychology to apply their growing knowledge to a real world setting, and for enhancing and advancing their psychological literacy and employability. We created a teaching and learning model called an 'Enterprise Challenge' in collaboration with a number of mental health charities and embedded these at various stages of the undergraduate degree programme. Students are presented with a brief, which constitutes the main task of the challenge and then work in groups to develop their ideas. Tasks and brief are designed to represent real –life problems or issues and the challenge for the students is to develop a product, service or initiative that addresses these issues. In the process of developing the idea, students need to consider practical, financial and ethical constraints. The challenge culminates in a pitch given by the students to a panel of judges who evaluate the feasibility, and creativity of the idea. In this talk we will present the rationale of these challenges and how embedding entrepreneurial processes in the psychology curriculum can aid the development of psychological literacy.

Extended Summary

Objectives or purpose
Enterprise challenges are learning and teaching tools that ask students to develop an idea using their subject knowledge and skills. Students are presented with a brief, which constitutes the main task of the challenge and then work in groups to develop their ideas. Tasks and brief are designed to represent real –life problems or issues and the challenge for the students is to develop a product, service or initiative that addresses these issues. In the process of developing the idea, students need to consider practical, financial and ethical constraints. The challenge culminates in a pitch given by the students to a panel of judges who evaluate the feasibility, and creativity of the idea. The aim of these challenges is to create and facilitate a learning environment that enables students to develop their psychological literacy and graduate employability.

Perspective(s) or theoretical framework
Our overall framework is the development of psychological literacy (Boneau, 1990; Mair, Taylor & Hulme, 2013) by integrating entrepreneurial learning (Sewell and Poo, 2010; Hytti and O'Gorman, 2004) within the psychology curriculum.

Methods, techniques, or modes of inquiry

We have developed 2 different delivery modes for the enterprise challenges: for first year students, the challenges are embedded within the module structure. For second and third year students, the challenges are voluntary and take place outside the normal timetabled course.

We have taken an action research approach to developing, refining and evaluating the enterprise challenges (Norton, 2001).

Data sources, evidence, objects, or materials

We have collected quantitative and qualitative evaluation data through both online and pen-and paper surveys after each event, Moreover, the pitches of the different challenges are video-taped and we will present examples of the video pitches in the talk.

Results and/or substantiated conclusions or warrants for arguments/point of view

Students enjoyed working in teams and competing against each other by producing their pitch. Moreover, applying psychological knowledge to real –life situations and needs enhances the engagement with the subject matter and develops social awareness. Students are able to develop entrepreneurial skills that enhance their employability and career development in various settings. This is relevant both for professional psychology pathways as well as other careers.

Scientific or scholarly significance of the study or work

We aim to demonstrate through the 'Enterprise Challenge', an immersive learning model that engenders curious, autonomous, creative and psychologically literate graduates. As a model it has the capacity to integrate discrete areas of learning, has real-life applicability and generates tenable, civic impact.

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2.Problem-Based Learning Addresses Multiple Components of Psychological Literacy: The Case of Gay Conversion Therapy

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A key component of psychological literacy is the ability to critically reflect upon and apply psychological knowledge to both individual as well as social problems (Cranney, Botwod, & Morris, 2012). Problem based learning (PBL), developed originally for medical education, addresses multiple components of psychological literacy including critical thinking, problem-solving skills, evaluating published scientific research, communicating research findings in a clear and comprehensible manner and appropriately applying psychological principles and empirical evidence to multiple social systems (McGovern., et al. 2010) including individuals, families, communities, as well as to regional and national governmental policies. PBL cases may be focused on individual clinical situations, organizational dynamics, and/or application of psychological knowledge to governmental policy. This presentation includes an example PBL case in which parents are requesting sexual orientation conversion treatment, for their 15-year-old daughter. Their request is supported with a published study (Spitzer, 2003) indicating that sexual orientation can be changed. In addition to requiring students to critically evaluate the quality and political use and misuse of psychological research, this case also includes an often overlooked component of psychological literacy – namely, the ethical implications of applying psychological knowledge (Murdoch, 2016). In keeping with psychological literacy as important for an educated citizenry (Cranney & Dunn, 2011), the case addresses how methodologically suspect research can be mis-applied to support questionable legislation and public policy. In addition to an experiential PBL component, the presentation will include teaching points from the case as well as outcome data.

Extended Summary

Objectives
At the conclusion of this presentation, participants should:1. Be able to articulate the key elements of problem -based learning as a pedagogical technique; 2. Be able to describe how problem-based learning can be used to address a number of key components of psychological literacy; 3..Be able to describe how students may apply knowledge of research methodology to critically analyze a published paper that has influenced law and public policy. 5. Be able to translate critical analysis of research to address a clinical case; 6. Be able to describe an example of psychological literacy as important for a responsible, informed, citizenry

Perspective(s) or theoretical framework
Psychological literacy includes the ability to assess the quality of behavioral research applied to a "real life" clinical dilemma**.** Problem-based learning is a technique that was developed at McMaster School of Medicine in Ontario, Canada. Proponents of PBL state that students are much more likely to acquire and retain information if it is presented and discussed in an applied context (Barrows, 1996). PBL is a useful tool for addressing psychological literacy and its emphasis on application of formal psychological knowledge to a complex simulation of a realistic, applied" real-world" dilemma

Methods, techniques, or modes of inquiry
This is a classroom-based pedagogical activity. PBL is an active learning technique typically conducted with small groups of students (Searight & Searight, 2009).
Data sources, evidence, objects, or materials
While there are prewritten PBL cases available, the author writes cases for their own classroom use that specifically address application of psychological literacy dimensions to multiple systems levels

including individual, family, and community, as well and state and national policy. The cases are written such that information is provided and gathered by the students in a sequential manner simulating clinical reasoning but also requiring analyses of the quality of research evidence. In the example used in this presentation, the case is approximately ten pages long with each page comprising several paragraphs and including key information for decision-making and formulating questions that can be addressed through review of research evidence.

Results and/or substantiated conclusions or warrants for arguments/point of view
In addition to addressing ethical issues in mental health practice, the case study highlights the value of critical analysis of research findings as a key component of psychological literacy. The case demonstrates how research findings can be "packaged" to support a particular value position. In this particular case illustration, students have detected a total of nine distinct problems with research supporting conversion therapy as well as five ethical issues that the case presents.

Scientific or scholarly significance of the study or scholarly wor
The presentation illustrates how a problem-based learning case can address multiple components of psychological literacy. These components include research methodology, ethics and professional conduct, and the political and public policy implications of research findings.

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3. Nolting's model of the mental system as a heuristic tool to promote psychological literacy in pre-tertiary psychology education.

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Whereas German scholarship on psychological literacy (Bildung) is rare (Nolting 2012, Geiss 2016), Bildung is firmly established as a goal of psychology teaching in grammar schools in Germany, Austria

and Switzerland. Many curricula refer to Bildung as the overall goal of general and vocational education and define how teaching subjects like psychology could contribute to help students to become autonomous self-reflecting individuals and citizens who are able to take over responsibility in private, professional und public affairs (Bildungsplan Hamburg, 2010, 9; Lehrplan PUP 2016, 99-100; Rahmenlehrplan 1994, 87). The proposed paper wants to elaborate a concept of psychological literacy which advances critical psychological thinking by combining subject specific skills and contents taught in pre-tertiary psychology classes.

The papers theoretically refers to the integrative model of the mental system which Nolting & Paulus proposed for the teaching and study of degree psychology (1985a, 1985b) and which Nolting more recently adapted in order to back psychological literacy among a more general audience (2012). This model was reviewed for degree studies in the latest editions (Nolting & Paulus 2015) and was also recommended for the teaching of pre-tertiary psychology (Nolting 1987). In addition it is to be shown, how Weinert's concept of competencies (1998, 2002), which lay the foundation of competency-based curricula development in Germany, Switzerland and Austria strongly, can be interpreted from the perspective of psychology education aiming at spreading psychological literacy as visible and nonvisible learning outcome in pre-tertiary psychology teaching (Geiss 2016a, 2016b).

The paper is based on a review of the theoretical contributions of Nolting & Paulus and Weinert. It also examines the possibility of spreading psychology literacy by referring to curricula documents and personal experience.

If psychological thinking and reflective psychological attitudes are to be basically conveyed in pre-tertiary psychology classes, this materiality will have a considerable impacts on curriculum development. Instead of overloading curricula with content (BPS 2016, 19) and assessing mainly memory skills at exams (Green 2007), courses will have to be designed which uses field methods of psychology as working methods in classroom and which promote psychological thinking with the help of every day case examples. Also the choice of topics and materials will not merely aim at introducing students to single fields of psychological research, but content choice will be more selective to promote psychological literacy of future self-reflected and committed citizens.

In the panel Noltings integrative model of mental process will be presented to a broader audience. In this way a leading German approach to psychology education can be discussed and evaluated for curriculum development in other European countries.

Extended Summary

Objectives
In higher education psychological literacy has been established as a key concept for the teaching and learning of psychology. For this reason scholars have argued to link this concept to graduate attributes like employability and global citizenship and to indicate ways how psychological literacy can be promoted in undergraduate psychology curricula (Mair, Taylor & Hulme 2013). Psychological literacy has also been proposed as a primary goal of undergraduate psychology, which could benefit individuals in their personal, professional and civic lives (Murdoch 2016). This overall aim of undergraduate studies comes up with the circumstance that a majority of undergraduate students are taking introductory psychology courses as an educational requirement or are finishing a first degree in psychology, without going on with the professional training of psychologists (Norcross et. al. 2016; Mair, Taylor & Hulme 2013). Referring to this context and to the fact that an increasing number of students have their only learning experience of psychology in pre-tertiary schools and colleges, Millers old question of how to give psychology away gained new relevance and meaning (Miller 1969). The aim of the proposed paper is to reflect how psychological literacy should it be understood for teaching pre-tertiary psychology (Jarvis 2011, Geiss 2016) and how Nolting's model of the mental system

(1985a, 1985b, 2013) could be used to promote psychological thinking and reflective psychological attitudes**.**

Perspective(s) or theoretical framework
The concept of psychological literacy was originally established in psychology by C. A. Boneau (1990), whose equation of literacy with content knowledge was reviewed by MacGovern et al. (2010) on adding also skills to the definition of psychological literacy, like to use scientific thinking, taking a sceptic approach to problem solving or applying psychological principles to personal, social or organisational problems. In the following scholars debated whether and to which extent generic and subject specific skills and attitudes should be included to this concept (Murdock 2016, Cranney, Dunn 2011). This paper is theoretically based on the concept of psychological literacy and the integrative model of the mental system, which Nolting more recently also adapted in order to spread psychological literacy among a more general audience (2012).

Methods, techniques, or modes of inquiry
This paper is based on a review of literature on pre-tertiary psychology education, examines the suitability of Nolting's model for the promotion of psychological literacy in pre-tertiary psychology education and describes ways to make use of it in classrooms.

Data sources, evidence, objects, or materials
The paper is both based on literature and source study and on practical experience with psychology classes at grammar schools.

Results and/or substantiated conclusions or warrants for arguments/point of view
If psychological thinking *and* reflective psychological attitudes are to be conveyed in pre-tertiary psychology classes, this materiality will have a considerable impact on curriculum development. Instead of overloading curricula with content (BPS 2016) and assessing mainly memory skills at exams (Green 2007), courses will have to be designed to use field methods of psychology as working methods in classrooms (Geiss 2016). Also the choice of topics and materials will not merely aim at introducing students to single fields of psychological research, but also confront them with psychologically relevant situations and problems. Nolting's approach of psychology education is proposed to support such learning outcomes.

Scientific or scholarly significance of the study or scholarly work
Nolting's integrative model of the mental system might deliver a suitable heuristic tool to promote psychological literacy in pre-tertiary psychology education of different national curricula.

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Symposium 4

Evidence-Based teaching in Psychology

Organizer: *Jacqui Taylor & Ioulia Papageorgi;* Chair: *Ioulia Papageorgi, Jacqui Taylor*;
Discussant: *Stephan Dutke*; Room: SE 1.006/1.007

Psychological research has generated theoretically well-founded and empirically investigated principles of learning and teaching i.e. spaced learning, writing to learn, multi-modal learning, collaborative learning, practice testing etc. The main premise is that teaching and learning can be improved in diverse applied settings when teachers consider the psychological evidence in designing learning opportunities and when learners recognise them as supporting their own learning processes (Dunn et al., 2013). The term evidence-based teaching summarizes this idea and refers to "learning and teaching strategies that have strong empirical evidence (derived from psychological research) for being effective in facilitating student learning" (Cranney, 2013, p. 2). Teachers and students of psychology should be in a privileged position to apply these principles of teaching and learning, because they emerged from psychological research. Do we apply our own research results to our own teaching? To what extent is the teaching of psychology evidence-based? These are key questions that motivated us to propose this symposium. Contributions to the symposium demonstrate how principles which have been proven to be effective are applied to the teaching of psychology, and what effect they have on student learning. We hope that these examples will inspire interest in evidence-based teaching, in utilizing the huge reservoir of general principles of instruction and learning for the teaching of psychology, and in evaluating its effectiveness in methodologically sound research designs. Publishing research on teaching psychology will further support the professionalization of psychology teaching and will provide students with new opportunities to benefit from psychological learning research.

1. Assessing students' knowledge about learning and forgetting curves with a free production technique: Measures and implications for the development of learning aids.

Christine Blech & Robert Gaschler

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Learning curves are not only an integral issue for courses in introductory psychology, they are also of high practical relevance to students. Knowing that the level of proficiency does not follow a linear trend but is best displayed by a negatively accelerated curve should help learners to form realistic expectations. Such expectations in turn may determine goal setting and motivation. A paper and pencil- study investigated how well students of psychology (N = 82) have internalized the concepts of learning and forgetting curves. We developed a vignette-based assessment technique: drawing a hypothetical learning or forgetting curve in an empty coordinate system with time on the x-axis and performance on the y-axis, the start point and endpoint being fixed. Different from multiple choice testing, this method offers no further hints on what the time course might be. Yet key aspects of free production answers can be quantified in a way that would allow for automated feedback in online teaching tools. For instance, learning which decelerates over time implies a curve above the diagonal while decelerated forgetting implies a curve below the diagonal. While on group average, the drawn learning curves mimicked inverted forgetting curves, analyses on the individual level documented poor consistency of knowledge. Students drawing a deceleration in learning were not more likely to also draw a deceleration in forgetting. Implications for future learning aids, e.g. online feedback systems are discussed.

Extended Summary

Objectives

In order to describe and understand the process of skill acquisition (as well as its counterpart in cognition: forgetting) learning (and forgetting) curves can be considered as helpful tools with a long tradition in psychology. Both types of curves are not only an integral issue for courses in introductory psychology (Teigen, 2002). They are also of high practical relevance to students with respect to preparing for exams or planning individual curricula. In the study at hand we aim to investigate students' knowledge about these curves.

Theoretical framework

In cognitive psychology, there has been consensus that individual learning curves may follow diverse trends such as initial lags, sudden onsets of a target behavior, and episodes of quite continuous increases in performance (Gallistel, Balsam, & Fairhurst, 2004). In contrast, learning courses aggregated over a whole population result in smooth rising curves with a negative acceleration, which can be mapped by a decelerating exponential function. Regarding the absolute amount of learning, novices experience large increases in performance while proficient learners need more time and effort to achieve equally large increases. Once a student is familiar with this law of practice, he or she can adopt it to plan learning sessions accordingly and to form realistic expectations. According to Ainsworth, Prain, and Tytler (2011) self-generated sketches can support the acquisition of appropriate mental models in science. We apply this idea to drawing the course of learning and forgetting curves.

Methods and techniques

To assess students' knowledge about learning and forgetting curves we developed a vignette technique (see also Blech & Gaschler, 2017). The participating students were given a paper-and-pencil booklet with empty coordinate system diagrams (see Figure 1) and short texts. For the learning curve vignette the cover story ran: "Imagine you are working through a list of 100 vocabularies every day. [...] Please draw what the course of practice could potentially look like." Starting and endpoints were stated in the task and thus fixed. A forgetting curve vignette was implemented correspondingly. The drawn curves were analyzed with respect to the following criteria: (a) Curvature: mean deviations from the diagonal axis greater than zero indicated an appropriate understanding of a learning curve's negative acceleration (forgetting curves: reverse pattern). (b) Another acceleration index determined the ratio between learning changes in the first vs. second half of the course. Also, (c) skip functions and (d) lags for delayed onset were registered.

Data sources

Data was collected from N = 82 students at the FernUniversität in Hagen, aged 20 to 61. In spite of the free response format quantitative analysis was possible by reading off the numeral values from the manually drawn curves and entering them into MS Excel spreadsheets.

Results and conclusions

For both the learning and forgetting curves, instead of realizing the decelerating exponential trend, a large proportion of students drew curves close to the diagonal axis (learning: 63.8%, forgetting: 61.8%). Negative acceleration was found in roughly two thirds of the cases (learning: 66.7%, forgetting: 63.1%). Skips functions (7.4%) and lags (3.6%) were comparably rare, especially in the learning curve vignette. Overall, while on group average the drawn learning curves mimicked inverted forgetting curves, analyses on the individual level documented poor consistency of knowledge. Students drawing a deceleration in learning were not more likely to also draw a deceleration in forgetting.

Scientific and practical relevance

The results at hand suggest that in introductory psychology there is need to teach learning curves in a more sustainable manner, possibly by enriching textbook examples with more practical applications, interactive online demonstrations, or quizzes. For future applied research, the vignette approach can be translated into interactive online tools with instant automatic feedback. This would be grounded on (a) the mechanisms of generative learning (Wittrock, 2010; active drawing instead of viewing a full-blown graph promotes deeper learning), the principles of learning through testing (Rohrer & Pashler, 2010), and the motivating and correcting effects of feedback on learning.
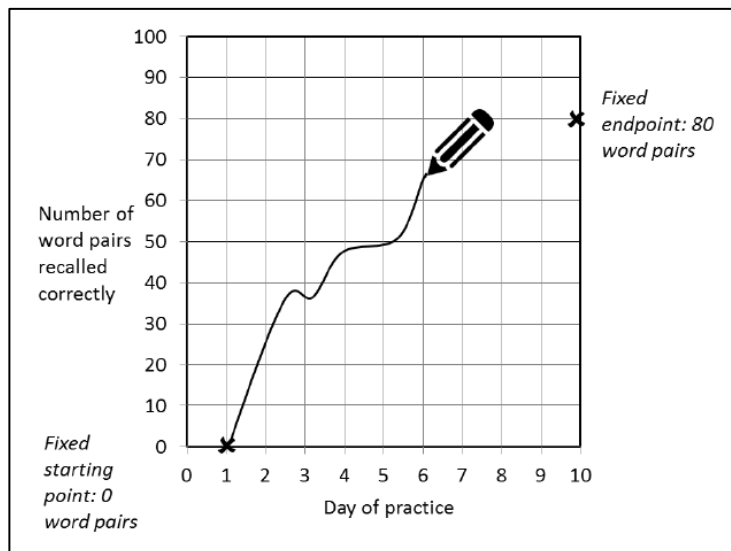
Figure 1: Example of a learning curve vignette.

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2. The testing effect in the psychology classroom: A meta-analytic perspective.

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The testing effect is a robust empirical finding in the research on learning and instruction, demonstrating that taking tests during the learning phase facilitates later retrieval from long-term memory. Early evidence came mainly from laboratory studies, though in recent years applied educational researchers have become increasingly interested in the effects of retrieval practice. We investigated the extent that the testing effect can also be observed and effectively used in psychology classes. Inspection of the research literature yielded 19 publications that tested the 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. A significant overall effect size of d = 0.56 demonstrated that testing was beneficial to the learning outcomes. Further analyses focused on the role of potential moderator variables, a possible publication bias, and the dependency between effect sizes. The results are discussed in the context of applications in learning and teaching psychology.

Extended Summary

Researchers of cognitive and educational psychology strongly recommend applying evidence-based teaching methods, and testing or retrieval practice is one of the most frequently studied techniques. But do they follow their own recommendations and can they demonstrate in empirical studies how to successfully adapt evidence-based teaching methods such as retrieval practice to their own teaching of psychology? The current study investigated the extent that the testing effect can be observed and effectively used in learning and teaching psychology using meta-analytic methods to summarize the current state of evidence on this question. The testing effect refers to the phenomenon that taking tests during the learning phase facilitates later retrieval from long-term memory. Theoretical accounts differentiate direct and indirect effects of testing. Direct effects refer to the impact of retrieving information from memory. 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 (cf. Dunlosky, Rawson, Marsh, Nathan, & Willingham, 2013). Indirect effects refer to the modulation of learning behaviors after retrieval practice. From a metacognitive perspective, for example, tests can serve as monitoring tools that provide information about the current state of learning. Learners can use this diagnostic information for adapting subsequent learning activities. Inspection of the research literature yielded 19 publications (dating from July 1984 to February 2016) that tested the effect in the context of learning and teaching psychology. From these publications, individual effect sizes were calculated as the standardized mean difference (Cohen's d) of final test performance between the testing condition and the control condition. Depending on the type of data reported in the original studies, various modifications of the basic formula for calculating Cohen's d were used to determine the individual effect sizes. A total of 72 effect sizes were extracted from these publications and subjected to meta-analytic testing. To calculate a combined overall mean effect size (Cohen's d) from the individual effect sizes, a random-effects model was employed. A mixed-effects model was used for categorical moderator analysis to determine the potential influences of the study design (between- or within-subjects), the type of control condition (restudy or no-test), and the implementation of feedback (yes or no). Two additional analyses were conducted to explore a potential publication bias and the effect of dependency between effect sizes.

In the uncorrected random-effects model of the full data set, the analysis revealed a mean weighted effect size significantly different from zero, d = 0.56, 95% CI [0.40, 0.71], indicating a beneficial effect of testing. In the uncorrected mixed-effects model, the analysis revealed only one signifi-

cant effect pertaining to the moderator variable feedback (z = 2.42, p = 0.02). The implementation of feedback enhanced the testing effect if all other moderators were held constant. There was no indication of a publication bias in the current data set that originates from a systematic correlation between sample size and effect size. Finally, a robust variance estimation (RVE) was computed to inspect and correct for the influence of dependent effect sizes in the random-effects and mixed-effects models. Applying the RVE procedure to the random-effects model slightly increased the overall effect size, d = 0.62, 95% CI [0.32, 0.93]. Applying the RVE procedure to the mixed-effects model produced no significant effects of the three moderator variables study design, control condition, and feedback. The central result of our analysis is that testing between the acquisition phase and a final test enhanced performance in the final test. Feedback on the result of the intermediate test increased this effect, although the moderator effect of feedback was not significant after controlling for dependencies among the individual effect sizes. A publication bias was not detected, but this result should be carefully interpreted because of the comparably small number of studies. Even though the current meta-analysis was limited to field studies of learning and teaching psychology, the current results are comparable to two earlier meta-analyses (Bangert-Drowns, Kulik, & Kulik, 1991; Rowland, 2014). We interpret this result in terms of the robustness of the testing effect, and we conclude that the effect can successfully be adopted to teaching psychology. Thus, the implementation of retrieval practice in psychology classrooms is recommendable.

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3. Combining evidence-based teaching and the scholarship of teaching and learning - An example from Teaching in Psychology.

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Teachers in psychology are capable of applying empirical findings from educational psychology, when designing learning opportunities (i.e., of using evidence-based teaching). In this contribution, we describe the implementation of an innovative module for first-year students in psychology as an example for the combination of evidence-based teaching and the Scholarship of Teaching and Learning in teaching psychology. First, we provide a description of the teaching formats comprised in the first semester of the module with regard to the evidence-based teaching techniques, which were implemented (feedback, testing effects, and spaced learning). Second, as an example of the Scholarship of Teaching and Learning, results of an evaluation focusing on both the students' perceptions and objective assessments are presented. During a web-based training, students' knowledge improved significantly. Yet, these learning outcomes are not correlated with students' pretest knowledge, so we can assume that this web-based training supports the reduction of heterogeneity among first-year

students. Furthermore, we discuss possible future enhancements of the module as well as general recommendations regarding the implementation of empirically founded teaching as a combination of evidence-based teaching and the Scholarship of Teaching and Learning in psychology.

Extended Summary

Teachers in psychology can apply their knowledge about theoretical and empirical findings from several fields of psychology when teaching their courses, i.e., conduct evidence-based teaching (EBT; e.g., Saville, 2010). To broaden this idea of EBT, we would like to supplement the Scholarship of Teaching and Learning (SoTL) where teachers examine their own courses in order to improve their own teaching and to provide information for teaching in higher education in general (Spinath, Seifried, & Eckert, 2014). This contribution illustrates an example for the combination of EBT and SoTL, describing a module, which was developed referring to several techniques of EBT, and investigated according to the idea of SoTL.

Based on the principles of problem-based learning (Dochy, Segers, van den Bossche, & Gijbels, 2003) and social constructivism (Palincsar, 1998), the module addresses first-year students in psychology. For the first semester of the module the students' intended learning outcomes comprise basic knowledge of learning and teaching as well as practical skills such as presentation techniques. Corresponding teaching formats include i.a. a lecture and a web-based trainings (WBTs). The learning opportunities were designed in view of several techniques of EBT, particularly feedback (Downs, 2015), testing effects (Dunn, Saville, Baker, & Marek, 2013) and spaced learning (Carpenter, Cepeda, Rohrer, Kang, & Pashler, 2012). In the first semester, 148 students (21.62% male; 78.38% female) were participating in the module. The evaluation described in the contribution is composed of different elements with regard to the variety of the teaching formats. To determine possibly biased information in students' self-evaluation, both subjective and objective measures were included.

Information on students' subjective perspective comprised both self-reported learning outcomes and the course evaluation. On average, students perceived moderate increases in their knowledge of educational psychology and their academic practice (M = 3.26, SD = .76; M = 3.18, SD = .97). In conformity with the intended learning outcomes for the first semester, students reported highest improvements regarding their presentation skills (M = 3.71, SD = 1.01). In an additional course evaluation, over all, students provided positive feedback on all the teaching formats. Particularly the interaction between students and teachers was rated very high (M = 4.31, SD = .75). Additionally, data on students' learning outcomes were collected. Therefore, students' increase in knowledge and understanding of educational psychology and academic practice was assessed objectively for the participation in a WBT and in the lecture respectively. During the WBT, students' knowledge improved significantly (t(36) = 6.83, p<.01), while no significant correlation was found between the students' results on the pretest and post-test (r = .072, p>.05). Regarding the subjects discussed during the lecture, 53 existing self-developed items were analyzed using item response theory (IRT) models. Therefore, the existing items were calibrated using a balanced incomplete block design (Frey, Hartig, & Rupp, 2009). The difficulty distribution of the 31 retained items had a mean of –.19 with a standard deviation of 1.19. The point–biserial correlation between a single item and the sum of solved items had a mean of .36 with a range of .20–.65. The reliability of the ability estimates was .57.

Considering the goal of providing an example of empirically founded teaching in psychology by combining EBT and the SoTL, practical implications are discussed in the contribution. Firstly, implications on further steps for improving the module are derived based on the evaluation. Secondly, implications for teaching in psychology in general are suggested.

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Importance of masculinity-femininity and sexual harassment experience for sexual harassment perception among Lithuanian students studying in different gender ratio environment.

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The aim of this study was to evaluate sexual harassment perception related factors in the sample of Lithuanian students. 148 higher education students, aged 19-37 participated in this study. Self-reported questionnaire consisted of several scales: Sexual Experiences Questionnaire (Fitzgerald et al., 1995) measured participants' sexual harassment experience in the last 12 months; masculinity and femininity was measured using Extended Version of the Personal Attributes Questionnaire (Spence et al., 1979), Balanced Inventory of Desirable Responding (Paulhus, 1991) was used to control socially desirable responding; 14 self-report vignettes were created based on Bursik (1992) vignettes and consultations with Office of the Equal Opportunities Ombudsperson to measure participants' perception of sexual harassment. Additional demographic questions were also included. The results revealed significant gender differences in sexual harassment perception. It was also found that gender of the victim, type of sexual harassment, gender ratio in academic environment and sexual harassment experience were significantly related to differences in sexual harassment perception between students. However participants' masculinity and femininity traits were not significant indicators of sexual harassment perception. Current results imply that prevalence of sexual harassment among Lithuanian students does not significantly differ from the prevalence in any other social group in Lithuania. However, the absence of official sexual harassment statistics might be linked to individual and environmental factors related to sexual harassment perception.

Extended Summary

Objectives
The aim of this study was to evaluate importance of gender, masculinity and femininity, sexual harassment experience and gender ratio in the universities and colleges in perception of different types of sexual harassment in the sample of Lithuanian students.

Theoretical framework
Sexual harassment is one of the most commonly experienced form of sex-based discrimination and according to European Union Agency for Fundamental Rights survey (2014) over 55 percent of women in Europe and over 35 percent of women in Lithuania endure any form of sexual harassment since the age of 15. However, despite frequent sexual harassment experience, in the past six years only four sexual harassment complaints had been filed in Lithuania and to this day there is no information on men sexual harassment experience. According to researches the lack of sexual harassment data and low number of complaints is not necessarily related to the absence of sexual harassment experience, but can be linked to the perception characteristics of this phenomenon. It is generally assumed that sexual harassment is experienced exclusively by women as sex-based discrimination in workplace environment. Such beliefs are based on gender roles, which are defined by masculinity and femininity traits, and results in better sexual harassment recognition when the victim is female and neglecting sexual harassment experience among men. Researchers indicate that students are the main risk group to become victims of sexual harassment and more atten-

tion should be paid to students' sexual harassment experience due to its negative effects on academic performance, physical and mental health and (Julie, 2013; Wolf, Rospenda, & Colaneri, 2016). However, beliefs about stereotypically feminine and masculine study programs are still supported in Lithuania. Such academic situation not only results in uneven gender distribution in different study programs, but also complicates sexual harassment perception between genders effecting perception of personal sexual harassment experience and social interactions between genders.

Methods

14 self-report vignettes were created based on Bursik (1992) vignettes and consultations with Office of the Equal Opportunities Ombudsperson to measure participants' perception of hostile environment (Cronbach α 0.79) and quid pro quo (Cronbach α 0.72) sexual harassment. Participants' sexual harassment experience in the last 12 months was measured using Sexual Experiences Questionnaire (Cronbach α 0.91) (Fitzgerald et al., 1995). Extended Version of the Personal Attributes Questionnaire (Cronbach α 0.64) (Spence et al., 1979) was used to measure masculinity and femininity.

Questions related to participants' age, gender and gender ratio in university or college environment were also included in this survey. Balanced Inventory of Desirable Responding (Cronbach α 0.66) (Paulhus, 1991) was used to control socially desirable responding.

Data sources

148 higher education students (107 females and 41 males) from Lithuania participated in online survey. The mean age of participants was 22.45 (SD=3.38). 54.7 percent of students studied in more feminine environment, 5.4 percent - in more masculine environment and 39.9 percent of participants reported studying in nearly equal gender ratio environment

Results and conclusions

The results have shown that there are significant gender differences in students' perception of sexual harassment. It was found that male students evaluate *quid pro quo* situations significantly less severe than female students. They also tend to evaluate situations where the victim is a female as more severe than situations where the victim is male. Although there was no significant gender differences in perception of verbal and nonverbal sexual harassment, however, physical contact based sexual harassment in total was rated as more severe for both genders. Significant differences in sexual harassment perception were related to gender ratio in higher education institution: male students in more masculine environment rated sexual harassment al less serious than students in other academic environments. Study results also showed that participants with higher gender harassment and overall sexual harassment experience evaluated *quid pro quo* situations significantly more severe than those with less such experience. Although, as expected male students showed higher masculinity scores and female students were higher on femininity, gender roles were not significantly related to the perception of sexual harassment.

Scientific or scholarly significance of the study

This is the first study in Lithuania investigating sexual harassment perception and perception related factors among higher education students. Research showed significant sexual harassment perception differences between male and female students and brought attention to academic factors related to it. Current results illustrate importance of further research on the subject and the need of public awareness in reducing prevailing sexual harassment stereotypes in order to enhance appropriate perception of sexual harassment. The results indicate that it is particularly important to provide sufficient information about sexual harassment for the higher education students, especially for those

who study in the unequal gender ratio environment in order to change prevailing beliefs about hostile environment sexual harassment and promote better understanding of this phenomenon.

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On Implementing Epistemology Variation and Cognitive Enhancement for Improved Learning in Higher Education.

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In search for straightforward ways of achieving improved learning in higher education, we present a selection of teaching components integrated in a schematic example of teaching and learning as based on theories of epistemology and psychological concepts of learning. A schematic example is presented that is framed by a five-week University course. An underlying general theme throughout the course is the deliberate varying of the attributed source of knowledge, that is, epistemology variation, which leads to differentiation of tasks and task goals for the student as individual and the students as group. Another main theme is cognitive enhancement achieved by formative assignment and assessment that develop or enhance cognitive and meta-cognitive processes. Also included in this theme is test-retest of key phenomena/concepts of the course and interleaving and spacing of topics or knowledge blocks. Fundamental to this is retrieval practice intended to establish or improve memory consolidation of key concepts and topics as well as nurture the learning of further details and complexity associated with them. The themes and the suggested integrative implementation of them are presented in the schematic example.

Extended summary

With the objective to ascertain conceivable and practical ways of achieving improved learning in higher education, we briefly describe the resulting general framework and illustrate it in a schematic model of implementation.

The interest in the relationship between learning and analysis of the nature of knowledge (i.e., epistemology) has been renewed in recent years (e.g., Bråten, 2010; Buehl & Alexander, 2005; Muis, 2007; Murphy, Alexander, & Muis, 2012). Alexander (2007) proposed a theoretical epistemic vector space to position theories of learning based on their standpoint in how knowledge is acquired (i.e., individually formed vs. socially derived) and where it is located (i.e., in the mind vs. in the environment). For example, information processing theory claims that knowledge is internalized representations of the external world as result of an individual's cognitive activity, and learning is a change in behavior as result of the knowledge acquisition (Murphy et al., 2012). The implications for teaching, curriculum, and assessment depend on the learning theory's position in the vector space, and in the case of information processing theory these implications have to relate to the what and how of the

individual learner's behavior and cognitive processing of information. Boud (2000) argues it is the teachers' understanding of what knowledge is and how it is acquired, together with the "ability to discern variation in knowledge" (p. 154), that determine whether students become effective learners. In particular, students with more sophisticated epistemological beliefs show higher levels of motivation and performance, as well as more effective cognitive and meta-cognitive learning strategies (Bråten, 2010; Buehl & Alexander, 2005; Muis, 2007).

Cognitive psychology provides several practices that enhance learning (e.g., Karpicke, 2012; Roediger, Finn, & Weinstein, 2012), which mainly are: (1) retrieval practice through testing; (2) spaced periods of study of the same topic or knowledge blocks; (3) interleaving of topics or knowledge blocks; and (4) meta-cognitive monitoring. The first three practices establish or improve memory consolidation of key concepts and topics (Roediger et al., 2012). The teaching of meta-cognitive monitoring can improve learning by the focus on the student's own ability to control study effort, and select and modify effective learning strategies. Still another main theme is formative assessment, which guides the student in how to learn what is to be learned and informs about the student's performance in this process (Boud, 2000; Hattie & Timperley, 2007).

Presented in Figure 1 is a schematic model or example of teaching and learning as based on several theories of epistemology and psychological concepts of learning, which is framed by a five-week university course divided into three different time phases (PHASE I – III). Selected keys or key concepts provide the basics for understanding the cores of the course. Phase I actually starts with a test (T1) about five keys, which opens up a following sequence of tests (T2-T4) aimed for retrieval practice. After each test, the correct answers of the test are presented so that each student gets immediate feedback on performance. The lectures that follow cover the five keys in more extended form and context, and an additional five keys are introduced and followed up in the same manner. Short sessions at lectures are used for Repetition (R) of important topics of previous lecture(s) and this repetition is interleaved and spaced during the course. Assignments (A1-A2) outside class help the student develop further knowledge on the course topics, with Feedback (F1-F2) given to help the student alter the gap between what is understood and what should be understood. The deliberate varying of the attributed source of knowledge is applied by the teaching practices that involve both individually forming testing and assignments, and socially derived knowledge such as with workshops and seminars. This variation leads to differentiation of tasks and task goals for the student as individual and the students as group. The course ends with a summative examination.
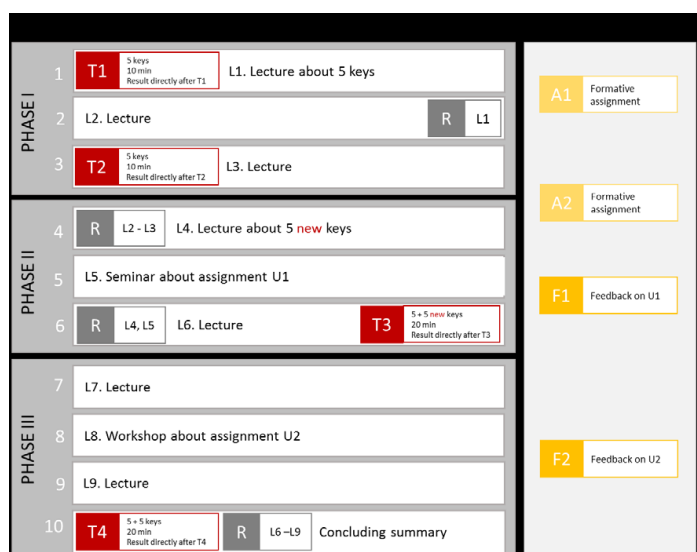

Figure 1. Schematic model of implemented teaching and learning components.

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Variability in the presentation of core concepts of cognitive psychology in introductory textbooks.

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We report an in depth analysis on how core concepts of cognitive psychology (working memory; attention) are being covered in seven introductory text books as a pilot study that should lay the ground for a larger study on canonity in teaching material. Of the ten working memory (sub)topics, two were covered in all books, and six in at least half of the books. Of the 13 attention (sub)topics, four were covered in at least half of the books. A keyword analysis and an analysis of graph-use and educational objectives explicitly being pursued yielded similar levels of diversity. Taken together, the results suggest that low levels of canonity documented based on key-word or citation overlap in earlier studies is paralleled in diversity of coverage of potential core concepts.

Extended Summary

Objectives
Canonity differs across scientific disciplines and has been linked to success in interdisciplinary work and on the job marked (i.e., knowing what one can expect a psychologist to contribute; e.g., Howell, Collisson, & King, 2014). Past studies on canonity in psychology have targeted introductory textbooks and analyzed overlap in citations, keywords, and researchers covered (e.g., Griggs, Bujak-Johnson, & Proctor, 2004; Griggs & Marek, 2001; Griggs, Proctor, & Cook, 2004). In the current study we assessed canonity with respect to coverage of two core concepts of cognitive psychology. We chose

working memory and attention, as both (a) are present in introductory text books of cognitive psychology and (b) are present in different parts of the research literature in psychology and are used to bridge different psychological research literatures.

Theoretical framework

Work on canonity is rooted in empirical science studies (e.g., Simonton, 2004) and on didactics (e.g., Griggs, Bujak-Johnson, & Proctor, 2004; Griggs & Marek, 2001; Griggs, Proctor, & Cook, 2004). Howell, Collisson, and King (2014) have reported lower canonity for psychology as compared to physics. When asked to indicate which three core concepts a student holding a bachelor degree should know about, Newton's laws were top of the list of the physicists while for the psychologists, top of the list was knowing that psychology is organized in subdisciplines. Next most frequently mentioned concepts were issues of research methodology and statistics which are relevant to psychology, but arguably not genuinely psychological topics. Based on these results we focus on concepts (working memory, attention) that are used in different branches of psychology and can serve as a bridge.

Methods and techniques

Coverage of topics and key words as well as graph-use (Smith et al. 2002; Wieser & Slunecko, 2013) and explicit educational objectives (Bloom et al., 1956) were coded and summarized quantitatively. Two handbooks of psychology were used to gauge to what extent coverage in the text books mirrored what was deemed relevant for psychologists working in research and practice.

Data sources

We identified a sample of seven currently used (2005 to 2014) German cognitive psychology text books which covered working memory and attention at least to some extent.

Results and conclusions

Of the working memory (sub)topics (10), two were covered in all books, and six in at least half of the books. Of the attention (sub)topics (13), four were covered in at least half of the books. A keyword analysis and an analysis of graph-use and educational objectives explicitly being pursued yielded similar levels of diversity. Taken together, the results suggest that low levels of canonity documented based on key-word or citation overlap in earlier studies is paralleled in diversity of coverage of potential core concepts of sub disciplines of psychology.

Scientific and practical relevance

The current pilot work shows that and how the level of canonity in covering potential core concepts in psychology can be assessed. The high level of diversity documented can be considered when devising new teaching material. In order to foster unity of psychology, future work on establishing efficient methods for teaching specific topics might focus on topics (such as working memory and attention) which are relevant in different subdisciplines of psychology.

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Beyond Clickers: an investigation into using students' mobile devices as an audience response system.

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Recent research has reported that the use of audience response system in lectures increases student attendance, increases student participation and promotes deep and effective learning. Smartphones are ubiquitous amongst university students, yet very little research has been carried out on the impact of students using their own mobile devices as audience response systems. We carried out an evaluation of an audience response system, which uses students own mobile devices. The system was used in three undergraduate psychology courses (n = 321). All the students had access to a mobile device, either a smartphone (97%), tablet PC (36%) or laptop PC (94%). Ninety three percent of the students used the system at least half the time and only one student never used the system. Ninety eight percent of students agreed that the system made the lectures more interesting. Seventy seven percent preferred the mobile audience response system to using a physical clicker system and 97% of students found the audience response system easy to use. Students used the audience response system for the following reasons: (i) it made the lectures more interactive and engaging; (ii) it was useful for testing their understanding and (iii) it was fun. Students did not use the mobile audience response system in the lectures because (i) it drained the battery from their mobile devices and (ii) they did not want to log into the system. The implications of these findings for the use of audience response system in supporting lectures are discussed.

Extended Summary

Two recent metal analyses have reported that the use of audience response system in education can increase student attendance, increase student participation and promote deep and effective learning (Chien, Chang & Chang, 2015; Hunsu, Adesope & Bayly, 2016). Recently, audience response systems have move away from using physical clicker devices to using students own mobile internet connected devices, partly because Smartphones are becoming ubiquitous among university aged adults. Pew Research Centre (2017) reports 92% of adults aged between 18 and 29 own a smartphone in the USA. Ninety percent of 16-24 year olds own a smartphone in the UK (OfCom 2015) and 98% of adults aged between 16 and 24 own a smartphone in Scandinavia. Yet very little research has been carried out on the impact of students using their own mobile devices as audience response systems in lectures. One of the few studies was conducted by Stowell (2015), who reported that students' attitudes were positive towards mobile devices as audience response systems, but some experienced

problems with the internet connection and others were distracted by other students using their mobile devices during class.

The aim of this paper is to report a study that evaluated the use of an audience response system, which uses the students own mobile internet connected devices (i.e. mobile phones, tablet pcs and laptops) rather than a physical clicker.

The audience response system was employed in three undergraduate psychology courses: a second year undergraduate compulsory course (192 students) and two final year optional psychology courses (45 Students and 84 students). The system we used was a commercial system developed by Ombea, which enabled background music to be played while the students were answering the question. The audience response system was evaluated by asking the students to complete a questionnaire at the end of the course. The students were asked which mobile devices they owned; how often they used the audience response system; did the audience response system make the lectures more interesting, whether the mobile based audience response system was better than using a physical clicker and how easy to use was the mobile audience response system. Students responded using a Likert scale. The students were also asked about the good and bad points of using the mobile audience response system. One hundred and seventeen students (96 females and 14 males) completed the questionnaire.

All the students who completed the questionnaire had access to a mobile internet connected device, either a smartphone (97%), tablet PC (36%) or laptop PC (94%). Most had access to more than one mobile internet connected device. We found that 93% of the students used the system at least half the time and only one student never used the system. Ninety eight percent of students agreed that the audience response system made the lectures more interesting. Seventy seven percent agreed that they preferred the mobile audience response system to using a physical clicker and 97% of students found the audience response system easy to use. There were three main reasons why students used the audience response system. First, it made the lectures more interactive and engaging. Second, it was very useful for testing their understanding and finally it was fun, because you could add background music while the students answered the questions. The music added to the drama and it increased the discussion between the students. There were two reasons why they the students did not use the audience response system in the lectures. First, it drained the battery from their mobile devices. Second, they did not want to log into the system, but even when they did not log in they would often participate by answering the questions in their head or working with their friends.

In conclusion, the students responded very positively to the mobile internet connected audience response system. They found it easy to use and it made the lectures more interesting. They have a number of advantages over physical clickers and this paper and others have shown that they share some of the benefits of the physical clickers. Further research is required to investigate whether these benefits carry over to academic learning.

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Experiments and Case Studies in Teacher Education

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A course concept aimed at increasing the course-related motivation of students who are pursuing teaching degrees is introduced and evaluated within a design-based research paradigm. The goal of the course concept is to allow teaching-degree students to gain first-hand experience regarding psychological experimenting and to derive implications for their teaching practice based on case studies. Fifty-five students participated and completed two versions of the Course Interest Survey, measuring the motivation-related dimensions of attention, relevance, confidence, and satisfaction. The results showed that the present course concept was held in higher regards by the students than presentation-oriented course concepts in terms of all four dimensions.

Extended Summary

Objectives

Students in teaching degree programs often find it difficult to understand and interpret psychological findings, and to transfer their knowledge about such findings to their everyday teaching practice. The course concept 'Experiments and Case Studies in Teacher Education' tackles these difficulties by (a) allowing students to gain insight into psychological experimenting by constructing and conducting small experiments as part of their course work, and (b) applying their knowledge about psychological mechanisms in terms of constructing and solving small case studies closely related to real-life teaching practice. By providing students with first-hand experience in experimenting and emphasizing the usefulness of empirical findings for their teaching practice, the course concept aims to increase students' learning motivation for the course topics.

Theoretical / Methodological Perspectives

According to the ARCS – Model (Keller, 2010), students' learning motivation can be promoted by course work which increases attention, emphasizes relevance, and fosters confidence and satisfaction. The present course concept is designed to target these dimensions, and is evaluated within a design-based research paradigm (Barab, 2014).

Materials

Course concept

At the beginning of the semester, students form groups of three or four. Each group is assigned one psychological topic, and corresponding text materials to study at home. During the first four weeks, in interaction with the course teacher, the students work within their groups to develop small experiments or case studies which are to be completed by their peers. In week five, the student-generated course sessions start. A typical student-generated course session consists of the following elements: (1) The group in charge administers their prepared experiment; their peers participate in it; (2) The group evaluates the results in the light of the theoretical framework of their topic, and explains that

framework to their peers; (3) Together with their peers, the group derives practical implications from experiment and framework (see Table 1).

Evaluation

To determine whether the present course concept yields motivational benefits, it was evaluated in comparison to presentation-oriented course concepts in which students teach their peers about psychological insights via direct instruction in the form of power point presentations.

Materials

Two versions of the CIS (Course Interest Survey; Keller, 2010) were used for the course evaluation, administered at two times within the semester (after half the time had passed, and at the end). The classical version of the CIS assessed students' general course motivation with scales targeting the ARCS dimensions Attention, Relevance, Confidence, and Satisfaction, with items like 'The course concept contributes to my acknowledgement of the importance of the course topic' (Relevance). Participants responded to the items on 5-point Likert-type rating scales (from 1 'I disagree' to 5 'I agree'). Additionally, we administered a comparative version of the CIS which was constructed for this study. The comparative CIS related the course concept of 'Experiments and Case Studies in Teacher Education' to presentation-oriented courses based on direct instruction, with items like 'In comparison to presentation-oriented courses, the current course contributes more to my acknowledgment of the importance of the course topic'. For the comparative CIS, students provided their ratings on the 7-point Likert-type ratings scales, with scales ranging from 1 'I disagree' to 7 'I agree').

Data Source

Two student samples, derived from two courses following the concept of 'Experiments and Case Studies in Teacher Education', participated in the evaluation voluntarily (Sample 1: N = 22; 15 female, 7 male; mean age = 23.50, SD = 2.09; age range: 21 − 28; Sample 2: N = 23; 15 female, 8 male; mean age = 26.04; SD = 7.43; age range: 19 – 44).

Results / Conclusions

Classical CIS: The rating means ranged around the value of 4 ('I tend to agree') for all four rating dimensions (Attention, Relevance, Confidence, and Satisfaction).

Comparative CIS: The rating means ranged around the value of 5, indicating that students found the investigated and applied course concept to be more motivating than presentation-oriented courses which follow the paradigm of direct instruction. For an overview of scale reliabilities and detailed results,

see Tables 2 and 3.

Significance

Psychological insights are highly relevant to teaching practice, and it is important to motivate students who are pursuing teaching degrees to understand and apply psychological insights to their teaching practice. The evaluation of the course concept 'Experiments and Case Studies in Teacher Education' revealed that student motivation with regard to learning about psychological topics in the domain of learning and instruction is increased by the course concept in terms of promoting attention,

relevance, confidence, and student satisfaction.

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Tables

Table 1

Course Outline for Course Concept 'Experiments and Case Studies in Teacher Education'

	Before-class	In-class	Out-of-class
Teacher	Chooses topics and literature; prepares course schedule; prepares work sheets for group work (including comprehension-check questions, time schedule, and idea-catalyzers for experiments or case studies)	*First four weeks:* Provides overview of course concept and group work schedule; provides access to literature; answers questions regarding the comprehension check; supports students in constructing materials for the student-generated course sessions *Week 5 – end of semester:* Observes student-generated course sessions; adds or corrects information if needed; answers questions which go beyond the knowledge of the group in charge; provides insightful feedback to the group in charge	Is available for answering additional student questions if needed; reviews student-produced materials prior to their course sessions
Students	Study literature relevant to their topic; (search for and study additional literature)	*First four weeks:* Complete comprehension check questions; produce handouts for peers summarizing the topic; produce materials for course session *Their session:* Administer their experiment / case study; evaluate it in the light of the theoretical and empirical framework of their topic; help peers derive implications for teaching practice (e.g. in guided discussion) *Their peers' sessions:* Take part in experiment / solve case study; learn about underlying theoretical and empirical frameworks; actively derive implications for teaching practice; provide insightful feedback to the group in charge	*After completion of the course work:* Summarize main findings and implications for teaching practice in form of a homework assignment

Table 2

Results of the Classical Version of the Course Interest Survey (CIS; Keller, 2010, translated and adapted to German by Rose, 2016*)

		Student Sample 1		Student Sample 2	
		T1 (N = 14)	T2 (N = 7)	T1 (N= 16)	T2 (N = 9)
Attention	Cronbach's α	.515	.772	.083	.828
	Cronach's α (item corrected)	.549	.833	.243	.846
	Scale Mean	3.450	3.980	3.410	3.780
	SD	2.540	3.530	2.300	3.950
Relevance	Cronbach's α	.403	.560	.726	.823
	Cronbach's α (item corrected)	.515	.692	.813	.875
	Scale Mean	3.540	3.540	3.370	3.430
	SD	2.330	3.740	3.440	4.670
Confidence	Cronbach's α	.649	.704	.619	.489
	Cronach's α (item corrected)	.703	.774	.712	.654
	Scale Mean	4.230	4.550	3.960	4.040
	SD	2.500	2.620	3.320	2.870
Satisfaction	Cronbach's α	.620	.898	.718	.771
	Cronach's α (item corrected)	.731	.934	.781	.842
	Scale Mean	4.260	3.320	3.980	4.120
	SD	3.000	3.310	3.610	3.850

* Rose, J. (2016). Der Course Interest Survey (CIS): Übersetzung, Modifikation und Validierung einer deutschen Version. Unveröffentlichte Masterarbeit, Technische Universität Dresden.

The use of expression in the teaching of psychology aimed at the psychological literacy.

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Aiming the teaching of psychology at the development of psychological literacy has brought a specific problem, how to secure sufficient engagement of students in the subject matter. Solution to this problem requires a regime of plausibility for teaching of a subjectively engaged content. Expressive activities supported by a corresponding didactical theory and methodology can be its basis.

Extended Summary

Objectives or purposes

The contribution is aimed at the analysis and operationalization of the notion of psychological literacy (McGovern et al., 2010 and others), which is considered to be the central target category in the teaching of psychology. The aim of the contribution is to explain the peculiar character of mediation and identifying psychological phenomena in the teaching of psychology and to point out the possibilities of utilization of expression in the teaching of psychology.

Perspective(s) or theoretical framework

Teaching of psychology aiming at psychological literacy cannot do without a specific involvement of the subject in the content, or the subject matter. The way of the methodical management of thus approached teaching is theoretically explained by means of Searle's (2004) construction of ontologies of the first and third persons and Goodman's (1976) typology of symbolism.

Methods, techniques, or modes of inquiry
The theoretical construction is supported by the analysis of case studies in accordance with method 3A (Janík et al., 2013).

Data sources, evidence, objects, or materials
The text presents an expressive task with two apples for teaching of psychology.

Results and/or substantiated conclusions or warrants for arguments/point of view
The aim of expressive experimentation and its reflection in the teaching of psychology is to connect the self-experience level from an activity with the field, not to process personal uncontrolled or difficult topics. This differentiates psychology education from expressive psychotherapy.

Scientific or scholarly significance of the study or work.
Such set learning tasks in the teaching of psychology are called psychophiletic, even though it is not expressive experimentation per se, but semi-expression (Nohavová, 2017). That means that modality "as" can be used for comparing psychologically important alternatives of particular human behaviour.

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Problem-based Teacher Education: Design and Testing of Problem-based Psychology Courses for Teacher Education.

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Problem-based learning (PBL) can have great impact concerning both the acquisition of practical knowledge and the reflection of beliefs and subjective theories. Both aims are of central importance in teacher education. Therefore, we implemented a problem-based learning approach in several

courses on psychology of learning and instruction for aspiring teachers. We outline our didactic approach, describe the current version of our courses and discuss the results of several formative and comparative evaluations addressing students' acceptance of PBL, perceived learning outcomes, and expected applicability of the acquired knowledge. The results revealed several benefits but also constraints of PBL in psychology courses for teacher education students.

Extended Summary

The fundamental problem of transferring theoretical knowledge acquired at university adequately to the professional domain – the "theory-practice divide" – has been well documented in teacher education (e.g. Neuweg, 2011). Many teaching practices in the past apparently did not provide a good foundation for the acquisition of practical knowledge but rather nurtured "inert knowledge," i.e., knowledge structures which cannot be used for practical application in the actual classroom (Renkl, Mandl & Gruber, 1996). This dilemma is known to university graduates of other professions as well (cf. Reusser, 2005).

Especially the concept of "problem-based learning" (PBL, e.g., Zumbach, 2003) is expected to enhance the usability of knowledge acquired at university: the transfer of theoretical knowledge to professional situations on the one hand, and the direct acquisition of practical knowledge on the other hand (e.g., De Simone, 2014). The explanation for the expected effectiveness of PBL is the individually tailored acquisition of knowledge "on demand" by working on authentic problems.

Studies on PBL in teacher education show a rather diverse, but quite consistent picture. On the one hand, the PBL approach does seem to support good theory-practice-alignment, as observed in various forms of PBL implementations through measures of student self-report (e.g., Wilhelm & Brovelli, 2009) and through actual testing of the acquired skills (e.g. De Simone, 2008). On the other hand, there are well-acknowledged challenges, most notably the high demand on the learners' time and effort, and learners' potential difficulties to adjust to a new, rather different teaching approach (e.g. De Simone, 2008; 2014). Both issues can affect the students' satisfaction, commitment, and ultimately their learning gains. However, strong instructional guidance during the whole PBL process seems to be a good remedy (e.g., Vardi & Ciccarelli, 2008).

Based on these considerations, we have planned, implemented, and evaluated a PBL- environment on the topic of "psychology of learning and instruction" in the first phase of teacher education. In the process, we integrated PBL into existing teaching structures without changing the overall curriculum (i.e., "small-scale implementation").

For the specific learning group of teacher education students and their particular instructional needs, we used the PBL-model "closed loop or reiterative problem-based" learning (Barrows, 1986, p. 484). Several problem-based learning cases were constructed (200-500 words), all dealing with central aspects of teachers' knowledge and competencies in the field of psychology of learning and instruction. Sources of the problem descriptions were workbooks for teacher education students and several textbooks of Educational Psychology.

First, four problem-based seminars were conducted and evaluated formatively, i.e. with the aim of optimizing our didactic approach (Scriven, 1967). Second, two courses (problem-based vs. theme-based) were comparatively evaluated. Self-report data concerning: a.) acceptance of the seminar concept (e.g., "appropriateness of the task difficulty," "provision of new insights and methods", "exciting and interesting topics"), b.) perceived or measured knowledge, and practical application, and c.) expected transfer of learning to behavior (transfer expectations; i.e., the participants' expectation of applying the new knowledge and changing their behavior on the job) were collected in the first and the last session of each seminar in both studies.

The results reveal that students were highly satisfied with the PBL approach, and perceived their learning gains positively. Yet, the comparative evaluation did not reveal differences between the PBL-course and the theme-based course.

Our experiences show that students welcome the work with authentic problems and expect a lot from the PBL concept. At the same time, our experiences point to several aspects course design that need to be optimized: most importantly, a stronger guidance for the learning processes and a more effective supervision of the individual's learning success seem conducive to more satisfaction and better learning gains.

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Learners-as-Designers – An instructional approach with added value for university instruction of future teachers.

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To acquire competencies in planning, organizing, implementing and moderating learner-centered instructional settings, future teachers need to have opportunities for practicing these competencies. Thus, a university course for teacher education was developed in which students were guided in designing digital learning material and media intended for use by colleagues and fellow students. In this paper we describe the conception and present different evaluation results of this "Learners as Designers" university course. Results of the evaluations show that such courses not only increase students' content knowledge, but also their professional teaching competencies. Implications of the results will be discussed with regard to the benefits and constraints of such courses in university instruction.

Extended Summary

Introduction

Teachers' professional competencies decisively influence teaching quality and effectiveness (KMK, 2014). Teaching competencies can be defined as a summary of the key professional and personal knowledge, abilities, skills and attitudes towards school, students and teaching that a teacher needs to have and demonstrate in order to successfully perform the professional tasks, duties and responsibilities to accomplish effective teaching practice (e.g., Weinert, 2001). They are developed through situation-specific reflection of scientific knowledge and practical experience. Hence, to acquire competencies in planning, organizing, implementing and moderating learner-centered instructional settings, future teachers need to have opportunities for practicing these competencies (Reusser, 2003). The instructional approach Learners-as-Designers (LaD, Jonassen & Reeves, 1996) encourages learners to design and produce digital learning material (i.e. media) intended for use by colleagues and fellow students. To this end, learners not only have to become knowledgeable in the particular topic, they also have to make decisions about the design of their digital media, as well as search for, select and organize relevant information with respect to the audience. In addition, they need to evaluate and revise their design product. Therefore, learners are actively engaged designing knowledge rather than interpreting and encoding information presented by a teacher. The teacher's tasks are to prepare the learning environment and to provide students with scaffolds and tutoring for the required learning activities.

We expected that experiencing such a LaD course would enable students in teacher education not only to engage in active, mindful and purposeful knowledge acquisition, but also in the development of professional teaching skills. Thus, the purpose of the present paper is to describe and discuss the conception of a LaD university course in Educational Psychology for teacher education in which students were guided in the creation of self-designed learning material.

LaD course conception

The course is designed as a blend of in-class sessions with computer-based activities that take place in small groups or individually:

1. Students train the technical skills necessary to create the self-designed media.
2. Students work on instructor-provided literature and other resources on their particular topic.
3. The general structure of the to-be-designed learning environment is developed in class.
4. Small groups plan and prepare one sub-part of the learning environment. They organize the work independently. The developed media have to meet several criteria discussed in class beforehand.
5. Each small group presents its sub-part to the class that evaluates and discusses it with a particular focus on content and layout.

Course evaluations

Since 2001 the course has been taken place 13 times, leaded by different instructors. Course subjects included, for example, self-regulated learning, learning difficulties, or applied learning psychology. In four of these courses (N = 59) students' subjective knowledge acquisition was assessed via a questionnaire (see Table 1, response scale from 1: strongly agree to 4: strongly disagree). As can be seen in Table 1, students believed to have acquired a lot of applicable knowledge during the LaD course.

	LaD course (n = 59)	
	M	*SD*
I am happy with the knowledge which I have acquired during the course sessions.	1.11	0.32
I can explain the main content of the course.	1.74	0.67
I can explain all concepts which were discussed during the course sessions.	2.21	0.79
I can answer typical questions about the content of the course.	1.93	0.57
I can describe similarities and differences between several models and theories which were discussed during the course sessions.	2.12	0.74
I can criticize papers of the content area with the knowledge I have acquired during the course sessions.	2.03	0.94
I have achieved my learning objectives.	2.08	0.67

Table 1: Results of the course evaluation.

The evaluations of five other courses (N = 142) revealed that students felt to have additionally acquired competencies that cannot be acquired in presentation-oriented courses where students provide their peers with a scientific talk on a particular topic (see Figure 2).
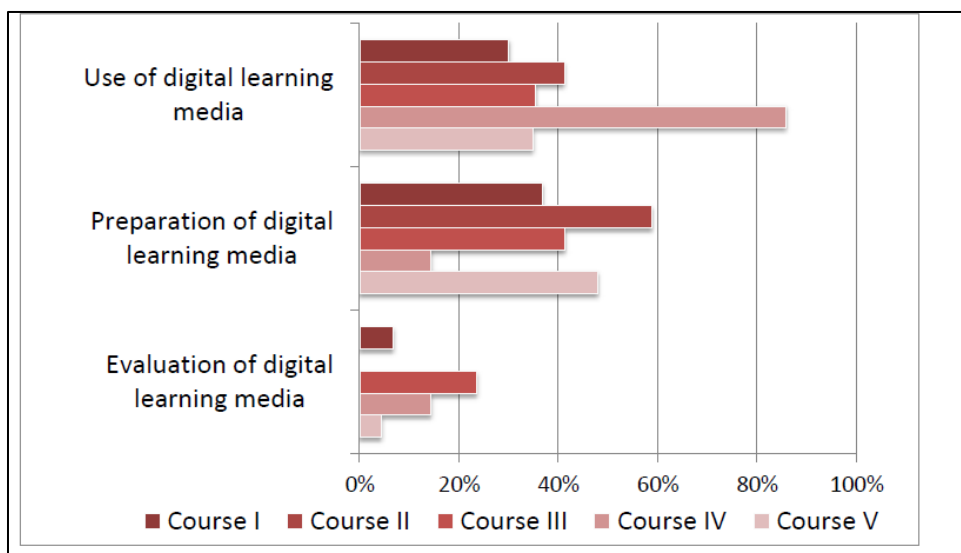
Figure 2. Students' Acquired Competences as Self-reported.

Students stated the acquisition of experience in using, preparing and evaluating digital learning material. These skills are important elements of professional teaching practice (KMK, 2014). Thus, students themselves believed that they had acquired and improved their teaching skills during the LaD course.

Discussion

The major learning objective of the described LaD conception was to develop students' professional teaching skills, besides the acquisition of content knowledge. The results of the evaluations illustrate that these aims can be successfully achieved. However, the data consist of the students' self-estimations; the results therefore have to be interpreted cautiously. To this day, economic behavior-oriented instruments that measure teaching skills are scarce. Nevertheless, LaD courses can foster both, students' active knowledge acquisition and professional teaching skills. To this end, a balance must be found between degrees of freedom for the students and support provided by the instructor.

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The effect of knowledge structuring on the application of rules.

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In the study of rule learning, the objective is for learners to apply the rules taught by several case examples to various problem solving (i.e., generalization of rules). However, previous studies have revealed that such generalization is not easy. We presumed that the reason for this was that the learners judged the atypical example as an exception, which is based on the fact that a single rule is to be learned, and therefore, a knowledge structure is not formed. The present study aimed at knowledge structuring to facilitate the generalization of rules. We proposed that a contrastive rule be taught in addition to the target rule that was the learning objective. A teaching activity was conducted using a debate format with four university students. The teaching effects were examined using the content of the participants' statements during this period and during follow-up interviews held eight months later. All four participants were able to apply the rule to the atypical example. However, only two of them were able to explain the relationship between the contrastive rule and target rule during the follow-up interview. These participants were the ones that generated questions actively by collating the rule with their existing knowledge during the debate. This result suggested that, for knowledge structuring, the provision of structuralized teaching material is not sufficient; instead, active thinking is required during the learning process.

Extended Summary

Objectives

Various language instruction materials aid learning. These materials have generality, which can be referred to as rules that learners can apply to solve problems. However, learners sometimes fail to apply rules that they have learned. This is because the learner views the atypical example as an exception, which prevents the generalization of rules.

To facilitate generalization, learners should be prevented from confusing the atypical example with an exception. It is important for learners to form a knowledge structure. This study aimed at knowledge structuring to facilitate the generalization of rules. We proposed teaching a contrastive rule in addition to the target rule that was the learning objective. The instruction aimed to improve learners' confidence in applying the rule to atypical examples and to explain the relationship between the target rule and the contrastive rule example.

Theoretical Framework

This study was based on the rule learning and meaningful reception learning theories. Our teaching strategy not only involved teaching a single rule, but also focused on establishing a connection between the target and contrastive rules, aiming at knowledge structuring.

Methods

Four university students (A–D) aspiring to become science teachers were taught the relevant rule by the instructor (the first author) by repeatedly asking and answering questions. The target rule was a land plants rule that every plant on the land has roots, stems, and leaves. The contrastive rule was an aquatic plants rule that plants in the water do not differentiate between roots, stems, and leaves. A follow-up interview was conducted eight months later (refer Table 1 for question items used during teaching and for the interviews). Participants' knowledge structuring and the degree of generalization of the rule were examined based on their statements from each session.

Data Sources

Table 1. Question items during the teaching/learning session and the follow-up interview (outline)

Q1: In elementary schools, students learn that a plant has roots, stems, and leaves. Do radishes have roots, leaves, and stems? (pre-test)

Q2: Do dandelions have stems?

Q3: What is the function of the roots, stems, and leaves?

Q4: Does seaweed have roots, stems, and leaves?

Q5: Does duckweed, which floats on water, have roots, stems, and leaves? Does moss that can only live in a location with a lot of water content have roots, stems, and leaves?

Q6: Do dandelions have stems?

Q7: Do radishes have stems? (post-test)

Follow-up interview: 1) Do radishes have roots, stems, and leaves? 2) Do you remember having talked about aquatic plants during the learning session? Was the discussion helpful in concluding that "radishes have roots, stems, and leaves"?

Results and Discussion

The overall teaching/learning process was as follows:

In Q1 (pre-test), all participants responded by saying that radishes were an exception to the rule. The tendency to perceive the atypical example as an exception was confirmed. In Q2, they did perceive the flower stalk to be the stem.

In Q3, they were able to correctly answer the functions of the roots, stems, and leaves. In Q4, all participants responded that although kelp had roots, stems, and leaves, sea lettuces did not. To this reply, the instructor explained why seaweed is not differentiated into roots, stems, and leaves. In Q5, the instructor explained that from the perspective of evolution, duckweeds do not have stems, and that moss is not differentiated into roots, stems, and leaves. Furthermore, the instructor questioned whether each plant needs roots, stems, and leaves.

In Q6, all participants responded by saying they do. In Q7 (post-test), all participants responded by saying they have stems. This suggested that providing a contrastive rule heightened their conviction regarding the target rule.

However, in the follow-up interviews, although all four participants applied the target rule to radishes, only two participants (A and B) remembered the discussion on aquatic plants. Additionally, they explained the habitats and body structures of the plants by contrasting the land and the aquatic environments. This difference between the participants may originate from the difference in what they learned during the learning process.

Thus, the volume and content of each participant's statement during the learning process were analyzed. The results showed that participants A and B actively produced questions by collating the content with their existing knowledge. In contrast, participants C and D did not submit any questions.

The above result shows that, for knowledge structuring, the mere instruction of target and contrastive rules is insufficient. Instead, learners need to create a coherent explanation by integrating the new information with their existing knowledge. This is related to the cognitive process for facilitating meaningful learning (Mayer, 2008). This study highlights the significance of examining the process of learning and instruction that promotes active thinking, to facilitate meaningful learning.

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How to teach respiration, speech and voice teacher-students to establish a constructive professional therapist-client-relationship

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In psychology classes students learning the profession of a state-registered respiration, speech and voice teacher are prepared for their role as professional, empathetic teachers and therapists especially by dealing with the fact that perception is subjective. They learn that perception represents a learning process that leads to a unique perception-history and that they will later have to deal with the "experiential field" (Rogers 1959) of their clients. "Empathy" (Rogers 1975) is based on the perception of the client´s experiential field. This knowledge or experience is a prerequisite for appropriate, professional therapist-responses and prevents inadequate, unprofessional emotional responses. A table illustrates exemplarily a curriculum including a short description of methods.

Extended Summary

Introduction

State-registered respiration, speech and voice teachers are not only teaching singers and speakers but also work as therapists with clients who are suffering under a disorder concerning a very sensitive area, their ability to express themselves by means of speech and voice. Thus it is very important for them as therapists to gain a deeper understanding of the emotions, especially anxiety, of their clients and to develop an adequate response.

To be prepared to meet this challenge they have to learn in their psychology classes primarily that perception is subjective. They learn that our perception system does not prepare us to perceive objectively; top-down-processes including our perception-history lead to a unique view of a situation, perception leads to experience and experience to behavior, for example the behavior of a client in a therapy session. We learn from Rogers (1975) that one of the most important abilities of a therapist is to deeply understand the client´s inner world of perception (empathy). Understanding this inner world enables the therapist to interpret the responses of the client and to understand that this behavior is not directed at his person. He or she has the possibility to respond sovereignly and professionally without a feeling of having been attacked.

Theoretical framework

Rogers (1951, 1959), developing his theory about the self-concept as part of the personality, uses the notion "experiential field" or "organismic experience" to explain that each person has included in his or her view of the world only the experiences he or she actually makes or has made. The person exhibits a very special and unique view of what could be called "objective reality". In Rogers´ concept of "empathy" (1975, 1992) the therapist should ideally delve into the experiential field of his client as a prerequisite to understand his present experience of the situation. Together with the two other principles for therapy "acceptance" and "congruence" the therapist possesses a basis to reflect the present inner state of his client and helps him to better understand himself, either parts of his self-concept and/or the reasons for his behavior. Even the setting of limits necessary in therapy (limitation of responsibility, of time, of affection, limits of aggressive action, Rogers 1942) is based on empathy and acceptance: We can learn from Virginia Axline (1947, 1964) that the setting of limits in client-centered play therapy includes three parts: 1. Showing that the situation is understood, 2. Showing acceptance for the emotional responses of the child and 3. Setting a limit.

Realization of Rogerian theory in psychology-education-practice and impact on professional practice
Students of respiration, speech and voice therapy study six semesters. The above described context they learn in the first, the third and the fifth semester.

Semester	Content, Method
1	Perception is subjective: • auditive and visual perception system, 3-dimensional seeing as an example for the fact, that perception has to be learned • perceiving a special tree by looking at it at the same time, writing a short description and compare it with the descriptions of the other students • learning about the self-concept-term and the experiential-field-term of Rogers, embed it into a conception of personality
3	The therapist keeps in mind that perception is subjective: • students learn to know Rogers´ three principles • they learn to know play therapy by Virginia Axline and the possibility to set limits in a client-centered, accepting way
5	Subjective perception leads to behavior, that should be understood to develop a professional response: • students learn about the four above mentioned limits in therapy, about transference and resistance and develop practical examples and responses for their own work as therapists • within an 8-hours-workshop they train client-centered responses in dyads

Graduates definitely benefit from their understanding of the therapist-client-relationship. 2013 and 2014 former students during an alumni-meeting filled out a questionnaire containing a question about their perception of how good they feel to be prepared for their professional practice concerning the therapist-client-relationship. On a rating-scale from 1 (full agreement) to 6 (no agreement) they answered 2013 averagely with 1,4 (n = 26) and 2014 with 1,3 (n = 28). An online-questioning is planned for summer 2017.

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Does physical learning environment matter? Effects after the move to a new campus on the perception of the quality of studies

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The present study examined the effects of a move to a new physical learning environment – Belval Campus – on the students' satisfaction with the course program in psychology. It was hypothesized that the move to a new and modern University campus with better study facilities increases course climate, learning promotion, and skill acquisition. Participants were 538 undergraduate students who completed the Bachelor Evaluation Questionnaire, which assessed the perceived quality of the course program as well as five infrastructure and equipment aspects of the new campus. Findings show that students were more satisfied with the classrooms, the capacity of the rooms, and the library facilities, but there was no increase in perceived course climate, learning promotion, and skill acquisition of the students after 6 months nor after 18 months from the move. The implications of these findings for the need to change physical learning environments are discussed and recommendations for the design of learning environments are presented.

Extended Summary

Learning environment research has often focused on social or psychosocial environments, rather than on physical environments (Walker & Fraser, 2005). Especially the evaluation of physical learning environments should also become an important issue, when new buildings are constructed that are intended to support teaching and learning. Therefore, higher education facilities too require evaluation in order to ascertain what helps to increase positive learning effects and to strengthen students study satisfaction (Cleveland & Fisher, 2014).

The aim of this study was to compare the satisfaction of students' perceived quality of their psychology course program before and after the move to a new campus of the University of Luxembourg. It was hypothesized that the move to a new modern campus with supposed better facilities would increase perceived course climate, learning promotion, and skill acquisition.

The Bachelor Evaluation Questionnaire (BEQ), a 21-item inventory, was administered as a measure of the perceived quality of the course program (Costa & Steffgen, 2015). The BEQ consists of five subscales assessing skill acquisition (3 items; $\alpha= .60$), learning promotion (3 items; $\alpha= .73$), course climate (3 items; $\alpha= .68$), teachers and training (5 items; $\alpha= .75$), and course requirements (2 items; $\alpha= .78$) as well as five single items about infrastructure and equipment (classroom, room capacity,

library facilities, IT-equipment, and workstation equipment). Students (*N* = 538) enrolled in the first, third, and fifth semester of a 3-year long bachelor program in psychology at the University of Luxembourg were consulted. The goals of the course program are for students to acquire skills in theory, methodology, intervention, and advanced personal competences. Students of the three academic years complete the BEQ, at the end of each Winter term, in December, within the framework of one course. Since the academic year of 2011/12 until the academic year of 2016/17 the data were collected at six time points. The move from Campus Walferdange to Campus Belval took place in July 2015.

Variance analysis revealed that the new campus obtained better ratings for the classrooms, for the capacity of the rooms, as well as for the facilities of the library but not for the IT- and the workstation equipment. There was also no significant systematic increase in perceived course climate, teachers and training, course requirements, learning promotion, or skill acquisition of the students in relation to the move to a new and modern university building.

Therefore, it appears that the use of a new building is not necessarily helpful to increase the satisfaction about teaching and learning in higher education. New building evaluation methodologies are required to understand in detail how learning environments could support educational programs (Cleveland & Fisher, 2014). Hence, further research is needed to clarify the relationship between space and learning and teaching effects.

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How well did we do at teaching prospective psychologists? Bachelor graduates' point of view.

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Every study program aims to equip its graduates with specific knowledge and skills and a demonstration of these on the part of students is usually necessary to complete the courses and get the degree. Yet how do the students themselves perceive their awaited abilities as (under)graduates? This paper presents the development of a self-evaluation questionnaire for undergraduate psychology students regarding their professional and generic skills and knowledge. Results from 140 Bachelor of Psychology graduates at a large Czech university are discussed within the concept of academic success. Suggestions for the assessment of learning outcomes among psychology students are made and implications are drawn for future research into the criteria of academic success.

Extended Summary

Although they are not yet allowed to work as professional psychologists, bachelor psychology graduates are supposed to obtain specific knowledge, skills and attitudes that enable them to develop

their professional competences, should they decide to further pursue the psychological education and career. According to the standards set by EuroPsy – the European Certificate in Psychology, such knowledge and skills encompass a basic orientation in the field of psychology and the main explanatory theories, academic skills and training in research methodology as well as the development of ethical knowledge and skills (Lunt, Poortinga, Roe & Peiró, 2015). Similar criteria – e.g., the ability to work with information, conduct research, develop interpersonal and communication skills or having plans for future career – are also used in the evaluation of academic or student success in general (Camara, 2004). Based on those, Prevatt, Li, Welles, Festa-Dreher, Yelland, and Lee (2011) developed the Academic Success Inventory for College Students (ASICS), in order to assess the students' perception of their own performance in the set domains.

The purpose of this study was to develop a similar, field-specific instrument that could serve as a (self-)evaluation measure for bachelor psychology graduates and their attainment of the aforementioned program learning outcomes. As a starting point, the "bachelor graduate's profile" as stated by the Department of Psychology at the Palacký University in Olomouc in an internal document (Bendová, Kolařík, Lach, Lemrová, Pechová, Řehan, & Šucha, 2011) was examined. The respective objectives were transformed into the form of first person statements, grouped according to the common topic (e.g. research methodology, theoretical knowledge, interpersonal and communication skills etc.) and some further statements concerning the difficulties while learning (e.g. *I find it hard to learn for exams; I often seek help while writing essays; I have troubles finishing homework in time*) were added. Then, a sample of statements was chosen from the pool to cover all relevant objectives, and it was given to comment upon to three students from the last year of Master of Psychology studies. The revised version of the questionnaire comprised 30 items on a 4-point Likert scale (0 – not at all true for me; 3 – completely true for me).

On the whole, 300 bachelor psychology graduates and 3rd year students from the Department of Psychology in Olomouc were asked to participate in a broader on-line survey via e-mails. Out of those, 140 completed the questionnaire (118 females, 22 males, age 21–52). Their answers were analyzed by means of descriptive statistics and parallel analysis based on polychoric correlation matrix was used as an exploratory factor analysis (EFA) method for the questionnaire. Minimum Rank Factor Analysis (MRFA) was chosen as the extraction method and after the initial solution, nonorthogonal Promin rotation was used on the suggested 5 factors. At last, summative scale scores were calculated and the internal consistency of each scale was assessed using Cronbach's alpha coefficient; the corrected item-total correlations were examined as well.

The factor loadings of each item on its respective scale was > 0.3 and the scales showed borderline acceptable internal consistency (α = 0.58–0.72). The results suggested that most of the graduates are confident in their theoretical knowledge, academic skills (working with information) and future career prospects, but less in their research methodology skills. Although the instrument itself would have to be perfected and revised according to new accreditation requirements for psychology graduate's profile, feedback can be drawn from the results on which areas to focus more in the teaching of psychology at the bachelor level. Also, the findings suggest that research into skills assessment might be a promising approach to the evaluation of academic success among psychology graduates.

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Prosocial Behaviour in Traditional and Non-traditional Primary Schools: Parents', Teachers' and Children's Evaluation.

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The aim of this research was to evaluate the extent of prosocial behaviour of the first and the third graders studying in different educational backgrounds of primary schools using three different sources of information (teachers, parents, and children). 151 primary school children from three traditional and three non-traditional (Montessori, Waldorf and Suzuki educational philosophy) schools were enrolled in this study. Both their parents and teachers evaluated each child's prosocial behaviour. After parent's permission children were also invited to answer self-reported questionnaire and to evaluate two hypothetical situations of prosocial behaviour. The results revealed that gender, but not age nor educational background was important correlate of primary schoolchildren' prosocial behaviour. Different sources of information about schoolchildren' prosocial behaviour were partially correlated. Specifically, significant relations were found between parents' and teachers' evaluations. To conclude, children' prosocial behaviour can be evaluated using different sources of information. However, educational background might not be considered as important factor for children's prosocial behaviour in the middle childhood and other correlates should be taken into account.

Extended Summary

Objectives
This study was aimed to evaluate prosocial behaviour of the first and the third graders studying in traditional and non-traditional schools based on parents', teachers' and children' evaluation.

Theoretical framework
Prosocial behaviour is a voluntary behaviour intended to benefit another person (Eisenberg et al., 1996; Garner, 2006). This behaviour is characterized by the tendency to care for, share with, or just help other people. Research show that children's prosocial actions like sharing, comforting, helping to others and cooperating is expected to increase with age (Hay, Castle, Davies, Demetriou, & Stimson, 1999; Imuta, Henry, Salughter, & Selcuk, 2016) and is especially important in the middle childhood, when children start to go to school. Academic performance and teachers' perception of prosocial behavior has a big influence to children's prosocial behaviour (Veenstra et al., 2008), and different educational background might contribute differently to the manifestation of this kind of behaviour.

Non-traditional schools, based on Montessori, Waldorf or Suzuki education, are quite popular nowadays, because they provide individualised programs and give parents opportunity to choose the most desired and proper educational philosophy for their children (Lithuanian educational concept, 2010).

Methods

This cross-sectional research was composed of three stages. Firstly, informed consents were obtained from the parents of the schoolchildren. They also provided information about their children' prosocial behaviour, using prosocial behaviour scale from Strengths and Difficulties Questionnaire (SDQ). The second stage – study with schoolchildren. Children's self-reported prosocial behaviour was evaluated using prosocial behaviour scale (Caprara & Pastoreli, 1993). Additionally two hypothetical situations requesting prosocial behaviour were presented for schoolchildren asking them to provide freely their reactions which were later evaluated as prosocial or not prosocial by the experts. The third stage – teachers' evaluation of children's prosocial behaviour, whose parents agreed for their children's participation in the research. Prosocial behaviour scale from Preschool Behaviour Questionnaire (Tremblay, Vitaro, Gagnon, Pichè, & Royer, 1992) was used for this assessment.

Data sources

151 children (77 girls and 74 boys) from three biggest cities of Lithuania studying in traditional (N = 66) and non-traditional (N = 85) educational institutions participated in this cross-sectional study. 76 of them were first graders and 75 – third graders (the mean age was 8.21 years).

Results and conclusions

The results showed that children's prosocial behaviour can be evaluated using different sources of information. However, no significant correlations were found between parents', teachers' and children' subjective evaluation and children' answers to hypothetical situations requiring prosocial behaviour. It was found that teachers' and parents' evaluations were significantly related. According to the teachers' and parents' evaluation, prosocial behaviour was more common for girls than for boys, while the differences between the grades and different educational backgrounds were not found.

Scientific or scholarly significance of the study

The results showed that there was no children' prosocial behaviour differences in traditional and non-traditional schools. Thus educational background might not be important factor for children prosocial behaviour in the middle childhood and other correlates should be taken into account.

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