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SAME THING AS '

Utrecht Scholarship of Teaching and Learning

CONFERENCE

Universiteit Utrecht

Centre for Academic Teaching

This booklet contains all the abstracts as presented during the First Utrecht Scholarship of Teaching and Learning Conference on Thursday the 7th March 2019 at the Utrecht University Hall in Utrecht.

Welcome!

Welcome to Utrecht's University Hall and to the first Utrecht Scholarship of Teaching and Learning Conference. The many participants and wide variety of abstracts submitted reveal that there is a great deal of interest in scholarly approaches to teaching and learning. Your interest has already made this first conference a success, with hopefully many more conferences to follow.

For today, we hope you will enjoy the workshops and posters featuring at this conference. The workshops give plenty of opportunity to share your approaches to teaching, engage with other participants, and learn more about research-informed methods and improvements in teaching and learning. Academic lecturers from several disciplines will be presenting their scholarly work on education in posters on a wide range of topics. During the poster session you will have the opportunity to meet them and reflect and debate on their research.

We wish you an interesting, interactive and inspiring conference.

Irma Meijerman
Veronique Schutjens
Maarten van der Smagt

Senior Fellows, Centre of Academic Teaching, Utrecht University

Please do not hesitate to contact us if you have any comments about the conference or suggestions for future meetings on cat@uu.nl or see www.uu.nl/cat.

Introduction

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Educational Scholarship? Why, what and how?

Irma Meijerman
and Manon Kluijtmans

This is the first Utrecht Scholarship of Teaching and Learning Conference. We hope that many more will follow, and we intend this conference to become an annual event to provide a platform for everyone engaged in educational scholarship.

What is educational scholarship? And how can you, as a lecturer, become involved and acquire support?

Educational scholarship is an aid in bridging the gap between educational research and teaching and learning in higher education. When the aim of educational scholarship is primarily to inform the teaching practice in your own classroom, we refer to 'Scholarship of Teaching and Learning' (SoTL). When the aim is to contribute to the theoretical knowledge base of teaching within a discipline, we refer to 'Discipline-Based Education Research' (DBER). (See figure 1.) Both SoTL and DBER are research-informed approaches to teaching. There is no rigorous division between these approaches: rather, they form a continuum of decreasing context-specificity.

As a lecturer involved in educational scholarship, you will contribute to our knowledge on 'what works, and why' concerning teaching within your own discipline. It also advances our knowledge of teaching and learning and improves the quality of teaching at Utrecht University. Furthermore, being involved in educational scholarship could stimulate you to think more critically about your own teaching and find inspiration for teaching innovations. It also encourages discussion with your colleagues about teaching. Finally,

educational scholarship will increase your involvement in teaching and make teaching more fun and inspiring.

Scholarship of Teaching and Learning (SoTL)

The main aim of the systematic approach of SoTL is to improve the teaching to and learning of students. To do so, lecturers are invited to examine their own classroom practice, record their successes and failures, and ultimately share their experiences so that others may reflect on their findings and build upon teaching and learning processes[1].The principles of SoTL entail that—based on a problem or question that lecturers have about their own teaching—a research question is formulated, literature research (related to teaching in the discipline) is performed, data is collected about the effectiveness of teaching with regard to student learning, and the data then shared, either locally or more widely, for example at a conference or in a peer-reviewed publication[2]. In SoTL the emphasis is therefore not on general educational theory creation, but especially on the application of (disciplinary) educational knowledge in one's own teaching.

A typical example of the title of a SoTL publication is: Evidence for teaching practice: The impact of clickers in a large first-year biology classroom environment.

Discipline Based Education Research (DBER)

The main aim of DBER is to contribute to the general theoretical knowledge about teaching within a specific discipline (which sometimes may also be generalisable outside it). DBER thus emerges from the discipline and is grounded in the discipline's priorities, worldview, knowledge and practices.

It investigates teaching and learning within a discipline and is informed by, and complementary to, general research on learning[3]. There is no rigorous divide between DBER and general education research: it is a continuum with increasing generalisability.

DBER is often relevant for the entire disciplinary field, and sometimes even relevant outside the field, with an emphasis on generation of educational knowledge and theories in education for discipline-specific academic teaching and learning.

A typical example of the title of a DBER publication is: The Script Concordance test: a new tool to assess the reflective clinician

The Centre for Academic Teaching

The Centre for Academic Teaching (CAT) supports SoTL and DBER by showcasing good examples and by bringing lecturers in contact with each other. To improve educational scholarship and learn from others, it is crucial that lecturers have opportunities to meet and gain ideas and share results. This Utrecht Scholarship of Teaching and Learning Conference therefore aims to provide a platform for disseminating improvements in teaching and learning in Higher Education in an open, inspiring and stimulating atmosphere.

In multiple other programmes and funds of the centre, educational scholarship is part of the mission, while the centre aims to offer courses to lecturers that aid their becoming involved in SoTL and/or DBER.

Currently an SoTL course entitled 'Get more out of your teaching' is being offered at the Faculty of Science (which, however, is open to all UU lecturers), in which the participants are supported in conducting

their own SoTL project. The CAT intends to offer other SoTL programmes in the near future.

The UMCU offers a Teaching Scholars Programme aimed at experienced lecturers in health professions education. This programme is aimed at senior lecturers who want to gain more in-depth knowledge of education and become engaged in DBER. The ambition of CAT is to start a University-wide teaching scholarship programme in 2019/2020.

Educate-it and Educational Consultancy & Professional Development (O&T) of Utrecht University are currently developing an e-module for the lifelong learning platform of the UU. This module provides guidance for lecturers wishing to become involved in SoTL. The e module will be translated in English at a later stage.

If you have questions about SoTL or DBER or want more information about opportunities for support, you can always contact CAT: CAT@uu.nl

We hope you have enjoyed the conference and we are looking forward to seeing your contribution to Educational Scholarly work at our conference next year.

References

[1] Hutchings, P., & Shulman, L.E. (1999). The scholarship of teaching: New elaborations, new developments. Change, 31(5), 10–15.
[2] Williams, K.M. (2015). Doing research to improve teaching and learning. A guide for college and university faculty. 1st Ed.; Routledge: Oxon, UK
[3] National Research Council (2012). Discipline-based education research. Understanding and improving learning in undergraduate science and engineering. 1st Ed.; National Academies Press: Washington, DC, USA

Programme

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9.00 — 9.15
Welcome, coffee/tea

9.15 — 9.30
Opening

Opening and introduction into Scholarship
of Teaching and Learning
By Irma Meijerman, Senior Fellow,
Centre for Academic Teaching

9.30 — 10.45
Workshops*

10.45 — 11.00
Coffee/tea break

11.00 — 12.00
Poster session
@Room Belle van Zuylenzaal
and *@Room Maskeradezaal*

Posters with *odd* number will be explained
by author(s) between 11.00 — 11.30

Posters with *even* number will be explained
by author(s) between 11.30 — 12.00

12.00 — 12.45
Poster session also open for
visitors *Onderwijsparade*

Lunch Onderwijsparade *@Senaatszaal*

12.00-18.00
You can visit the annual Education Day
(Onderwijsparade)

*Workshops

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▶ ENLARGE YOUR TOOLKIT

What methods are you aiming to use to
gather evidence of the effectiveness of
your teaching (and/or teaching innovation)?
Finding the right methods to provide
evidence of student learning in a systematic,
evidence-based approach of your teaching
(Scholarship of Teaching and Learning) may
prove challenging. Often these methods
are unknown to or rarely used in your own
discipline. In this workshop teachers from
different disciplines share and discuss
methods that can be used to measure
student learning, and creative examples are
provided to stimulate you as a teacher to
enlarge your 'toolkit'.

@Room Maskeradezaal

▶ STARTING A SCHOLARLY TEACHING
  INQUIRY PROJECT

Starting a scholarly teaching inquiry project
for the first time can be a real challenge
and can raise many questions: How do you
generate an idea for a project? How can
you find literature about teaching (in your
own discipline) that is relevant for your
project? How do you formulate a research
question and choose methods to gather
data about the effect of your teaching? And
how do you share your results with others?
In this workshop you will make a start with
planning your own teaching inquiry project
according to the principles of Scholarship
of Teaching and Learning. We will present
a roadmap that will guide you through the
first steps of research-informed, scholarly
teaching by proving information, tips, tricks,
and pitfalls.

@Room Kanunnikenzaal

▶ WRITING FOR PUBLICATION

Going public is one of the key features of
Scholarship of Teaching and Learning SoTL).
You can share your experiences and results
with your colleagues, at local meetings and
at conferences like this. Another option is
to write a publication about your scholarly
teaching inquiry project and by that reach
a broader (international) field of teachers
in your discipline. But how do you choose
a suitable journal? Should the journal be
related to your discipline or not? And are
there at all differences between publishing
about education compared to publishing
in your own discipline? This workshop will
unpack some of the mysteries of publishing
in internationally refereed teaching and
learning journals. The intended audience
is primarily teachers who have limited
experience of publishing about their
SoTL work in academic journals, whether
discipline-based or more generic SoTL
outlets.

@Room Belle van Zuylen

Submitted abstracts

On the following pages you can find the abstracts of posters as shown on the conference, divided in two groups of themes: **Teaching & Learning Approaches, and Student Selection** and **Academic Skills, Educational Development, and Assessment**.

▶ THEMES: TEACHING & LEARNING APPROACHES, AND STUDENT SELECTION

@Room Maskerade

1
The benefits of a learning continuum
Bald de Vries

2
Activating blended learning approaches in two freshmen chemistry courses
Danny J. Scholten, Maikel Wijtmans, Erik Boon, Stefan Dekker, J. Chris Vos, Marco Siderius, Jacqueline E. van Muijlwijk-Koezen

3
The Effects of Teaching Approaches and Learning Environment on Student's Approaches to Learning
Emanuel G.D. van Dongen

4
Reciprocal peer tutoring (RPT) as a means to accommodate the multilevel classroom in interdisciplinary education
Ferdi Engels

5
Out into the fields—exploring the role of fieldwork in geography education
Bouke van Gorp, Gery Nijenhuis

6
Usefulness of self-study with e-learning modules to improve collaborative learning during workshops
Elisabeth Y. Bijlsma, Astrid Hogenkamp, Femke C. Kirschner

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Longitudinal changes of regulation of deep and stepwise learning strategies in a six-year undergraduate pharmacy programme
Andries S. Koster

8
Do challenging applied assignments help students to better understand the link between psychological theory and clinical practice?
Yolanda van Beek

9
A peer-reviewed undergraduate journal as a student-centered teaching tool: The case of the Journal of Interpersonal Relations, Intergroup Relations and Identity
Diana Cárdenas, Mathieu Caron-Diotte, Jérémie B. Dupuis, Roxane de la Sablonnière

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Development and evaluation of a novel undergraduate course-based research concept in biomedical sciences
Niels Bovenschen, Irma Meijerman, Jessica M.A. Hegeman, Willemijn D. Schot, Frans J. Prins, Wim J.A.G. Dictus

11
Predictors of study success in the first year of the master programme Pharmacy
Marianne Verdel, Ewoudt van de Garde

▶ THEMES: ACADEMIC SKILLS, EDUCATIONAL DEVELOPMENT, AND ASSESSMENT

@Room Belle van Zuylen

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Humanities Research Methods in a Liberal Arts & Sciences program
Agnes Andeweg

13
The Co-Challenge course: Combining a hackathon model and community service learning to stimulate university students' soft skill development
Heleen van Ravenswaaij

14
Facilitating learning: supporting students' self-improvement through reflective use of feedback
Julie Hulme

15
Evaluating the effect of a virtual simulator on teaching communication skills
Maarten van der Smagt, Lubberta H. de Jong, Richta IJntema, Johan Jeuring, Michiel Hulsbergen

16
Developing engaged citizenship through student engagement in course design
Tatiana Bruni

17
Clinical Reasoning—The game
Marjolein de Ruwe

18
Barriers to obtaining required teaching qualifications
Lisette J.M.E. van Bruggen, Olle Th. J. ten Cate, Carrie Chen

19
Once a nurse always nurse? A study of identity development over a two-year leadership programme for postdoctoral nursing-scientists
Manon Kluijtmans, S. G. Cardiff, Thóra B. Hafsteinsdottir, Marieke J. Schuurmans

20
Curriculum innovation: the Seneca Program at UCU
Christel Lutz

21
Impact of interdisciplinary communities of teachers on enhancing the scholarship of teaching and learning
Irma Meijerman, Femke Kirschner

22
Do we agree? High-stakes decision making in programmatic assessment
Lubberta H. de Jong, Harold G.J. Bok, Wim D.J. Kremer, Cornelis P.M. van der Vleuten

23
Programmatic assessment in competency-based workplace learning and the efficiency of learning over time: when theory meets practice
Harold G.J. Bok, Lubberta H. de Jong, Thomas O'Neil, Connor Maxey, Kent Hecker

The benefits of a learning continuum

1

Bald de Vries

Utrecht University
Law, Economics and Government
School of Law

▶ ABSTRACT

The background of this study was a project trying to overcome the fragmented way in which law students study, considering the low amount of study contact hours. Experience shows that students might follow a lecture on a Monday (or not) and a seminar further in the week, prepared or unprepared, and then focus on a final exam to conclude a course. It inhibits students to attain knowledge (in the broad sense) at a higher cognitive level.
    Redesigning a first year course (Foundations of law) using blended learning as a structural tool, the project was able to create a learning continuum in which students were challenged to study for the course every day in a normal educational week. The overarching aim was to set up students to get into a study flow or rhythm in order to study law at a higher cognitive level (in Bloom's taxonomy).
    Using digital data as well as surveys and panel discussions, I was able to lay bare a number of correlations that show that a more structured design of an educational week, using blended earning, against the background of a low amount of contact hours, contributed to a higher amount of students concluding the course successfully at a higher level (while at the same time the exam was of higher level than in previous years).
    This project was part of the USO project Blended learning and learning analytics.

Activating blended learning approaches in two freshmen chemistry courses

Danny J. Scholten, Maikel Wijtmans, Erik Boon, Stefan Dekker, J. Chris Vos, Marco Siderius, Jacqueline E. van Muijlwijk-Koezen

Vrije Universiteit Amsterdam
Faculty of Sciences
Chemistry & Pharmaceutical Sciences

▶ ABSTRACT

Teaching freshmen students in their first semester remains a challenging task, not in the least place due to the concurrent transition from high school to university-based teaching approaches students are expected to make. Activated learning has been postulated to have benefits in science education[1]. In recent years, we therefore investigated the use of an activating blended learning approach in a major freshmen biochemistry course taking place in the first months of the first semester. This course suffered from low pass rates and low student- and teacher satisfaction. Our hypothesis was that an increase in activating content would benefit the performance of these students in the subject matter as well as increase their motivation to embrace academic learning. Toward this end, all lectures were recorded in preceding years using both existing and novel recording technologies and were edited for re-use during the subsequent years of the blended learning study. About half of the traditional lecture blocks were exclusively offered online as slide casts supplemented with in-cast multiple choice questions. The substantial number of contact hours released by moving content online were used in activating sessions such as extra problem-solving sessions, 3D viewing of (bio)molecules on the devices of students, occasional article viewing and other activating approaches. The results of our efforts are encouraging. The majority of students have watched slide casts and practiced using the in-cast questions. Evaluations showed that both the course teachers as well as the students were generally pleased with the new approach. Moreover, student exam performance significantly improved compared to the old situation. Altogether, the blended learning approach in this course can be regarded as a success and paves the way for implementation of more activating learning approaches in our educational programmes.

Literature references

[1] Freeman, S.; Eddy, S. L.; McDonough, M.; Smith, M. K.; Okoroafor, N.; Jordt, H.; Wenderoth, M. P., Active Learning Increases Student Performance in Science, Engineering, and Mathematics. *Proc. Natl. Acad. Sci. 2014, 111* (23), 8410–8415. https://doi.org/10.1073/pnas.1319030111

The Effects of Teaching Approaches and Learning Environment on Student's Approaches to Learning. A Study of Students' Learning in a First-Year Course Introduction to Private Law

Emanuel G.D. van Dongen

Utrecht University
Faculty of Law, Economics and Governance
Law

▶ ABSTRACT

Law students in the Netherlands tend to focus on the current state of the law. Students focus on—what they believe—will later be legal practice, and this often leads to a surface approach to legal matters among students, especially regarding legal history. The question arises how this surface approach can be turned into a deep approach to learning and, in that respect, what influence teaching has on the level of students' learning. In this study I investigate whether a new teaching approach as to the historical context of law stimulated deep learning. This study concentrates on an intervention in the teaching materials and the teaching methods of a first-year course in law, Introduction to Private Law: Law of Obligations (ca. 700 students), where a (new) integral approach to skills, (legal) content and historical context (legal history and Roman law) was offered. The effects of this intervention on students' learning is studied by means of questionnaires. The results of the student survey (at the beginning and at the end of the course) are compared and related to the approaches taken by teachers and compared to the exam results. With regard to the educational design, on average students think—compared with the two previous courses in the first year of the Law curriculum—that it helped slightly better in gaining an insight into the working of law in context. Nevertheless, a significant decrease in the deep approach occurred when comparing post- with pre-course scores. When looking at the role of the teacher, the effect of teachers' approaches on students' approaches was not significant, as a deep approach at the starting point was dominant. One period seems insufficient to encourage deep approaches—the preference for a surface approach for the exam results is also shown in this study. My study shows that there are various factors that influence a deep approach to learning, other than the role of teachers and course design, especially at the start of the university study. Finally, one of the recommendations is that new ways of examination encouraging deep (or life-long) learning have to be found.

Literature references

· Biggs, J.B., Kember D., Leung, D.Y.P., The Revised Two-Factor Study process Questionnaire: R-SPQ-2F, *Br. J. Educ. Psychol.* 71 (2001), p. 133-149.
· Postareff, L., Parpala, A., Lindblom-Ylänne, S., Factors Contributing to Changes in a Deep Approach to Learning in Different Learning Environments, *Learning Environ. Res.* (2015) 18, p. 315-333.
· Dongen, van E.G.D., & Meijerman, I., 'Teaching Historical Context in a First-Year Course 'Introduction to Private Law'. The Effects of Teaching Approaches and a Learning Environment on Students' Learning', in: Minale, V.M., & Amorosi, V. (eds.), *History of Law and Other Humanities* [provisional], Madrid: Universidad Carlos III 2019 [11p.; to appear].

Reciprocal peer tutoring (RPT) as a means to accommodate the multilevel classroom in interdisciplinary education

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Ferdi Engels

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Pharmaceutical Sciences

▶ ABSTRACT

In higher education there is a keen interest in interdisciplinary education. In interdisciplinary education, interdisciplinarity is represented at two distinct levels. First, content material focuses on complex concepts and problems which demand integrating sources of knowledge, methods and perspectives from two or more disciplines. Second, participants in interdisciplinary education may come from different disciplines themselves. The latter will result in multilevel classrooms where students have different backgrounds and starting competencies. Oftentimes, differentiated instruction is used for teaching and learning in multilevel classrooms. Here we present an alternative approach, in which the different backgrounds of the students are used to their benefit. A pilot study was performed in an interdisciplinary bachelor course dealing with the brain, mind and consciousness. Students with different backgrounds and proficiency levels (2nd – 4th year bachelor students) used reciprocal peer tutoring (RPT, implemented according to Topping et al., 2017) to master complex concepts.

In RPT students are learning from and with each other. They are supposed to take turns in assuming the roles of tutors and tutees, determined by the specific topic at hand and the respective backgrounds of tutor and tutee. Thus, RPT is a two-way learning activity and is mutually beneficial for tutor and tutee. It is beneficial for the tutee since, in contrast to teacher-student relationships, RPT allows for true one-to-one learning situations and personalized learning. The tutor's benefit is that he will be "learning by teaching". Theoretical underpinnings of peer tutoring have been nicely reviewed by Foot and Howe (1998). The research evidence is clear that peer tutoring can yield significant gains in academic achievements for both tutors and tutees, increase of motivation for learning, gains in transferable social and communication skills and improvements in self-efficacy.

Our preliminary results show that students actively involved in RPT. Observations of RPT couples indicated that students perceived the process of peer learning as a safe and stimulating learning environment. In student evaluations RPT was praised as an effective learning method. In the next installment of the course, the research focus will be on mutual responsibility for learning in RPT couples, and the role of assessment herein.

Literature references

· Foot, H. and Howe, C. (1998). The psychoeducational basis of peer-assisted learning. In: Peer-assisted learning, by K.J. Topping & S.W. Ehly.
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Out into the fields—exploring the role of fieldwork in geography education

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Bouke van Gorp, Gery Nijenhuis

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Faculty of Geosciences
Human Geography & Spatial Planning

▶ ABSTRACT

Fieldwork, defined as "*any component of the curriculum that involves leaving the classroom and learning through first-hand experience*" (Boyle et al. 2007, 300) is an essential component of our bachelor programme in Human Geography and Spatial Planning. Students learn outside the classroom during fieldtrips in Utrecht, the Netherlands and Europe. They question, observe, map, interview. Fieldwork enables students to better understand the 'messines' of 'geographical reality', to develop subject knowledge, and to gain a range of skills that are difficult to develop in the classroom alone. Moreover, fieldwork also motivates students and aids their self-development. Despite the high expectations regarding learning outcomes from fieldwork, the value added of fieldwork for our bachelor programme has thus far not been examined.

This study critically assesses the role and added value of fieldwork in our programme, focusing on the learning outcomes, through the lens of both instructors and students. The study employed three different methods for data collection. We started with a literature review on the role of fieldwork in undergraduate geography education. Second, we interviewed instructors that organize different forms of fieldwork in their courses. Finally, we organized focus group discussions after each period with first level BA students.

The study shows that both instructors and students are convinced about the value of fieldwork, both regarding content and skills. However, there are some challenges, which implicate that not all fieldwork leads to 'deep learning' (Oost et al. 2011). Meaningful reflection and feedback on the time spend in the field is complex, in particular since instructors do not always have a good overview of student involvement in field work activities. Whereas students recognize a certain structure in the offer of fieldwork in the curriculum, instructors identify a few gaps in the learning trajectory on fieldwork. Moreover, different views on the most appropriate didactic approach can be noted. Finally, both groups observe certain practical and ethical issues that should be taken into account. To conclude, fieldwork is a relevant ingredient of our programme, but further alignment should be explored to enhance 'deep' learning.

Literature references

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· Oost, K., De Vries, B. & Van der Schee, J. (2011). Enquiry driven fieldwork as rich and powerful teaching strategy—school practices in secondary geography education in the Netherlands, *International Research in Geographical and Environmental Education* 20(4), p.309-325

Usefulness of self-study with e-learning modules to improve collaborative learning during workshops

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6

Elisabeth Y. Bijlsma, Astrid Hogenkamp, Femke C. Kirschner

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Faculty of Science
Pharmaceutical Sciences

▶ ABSTRACT

Within the College of Pharmaceutical Sciences, we primarily work with small-scale student-centred teaching methods of which its effectiveness strongly depends on the quality of collaborative learning (Kirschner, Paas, & Kirschner, 2009). Collaborative learning is also important within the course Neuroimmunopharmacology (FA-CPS-211), as students have to use acquired knowledge to solve relevant problems during workshops together. Teacher observations revealed that active engagement in, and relevant contribution to, these learning activities, depend strongly on the level of knowledge acquired during self-study. The aim of this teaching innovation was to improve the knowledge gain from the preparatory self-study and, consequently, the level of student engagement and discussion during the workshops. To this end we developed e-learning modules in which knowledge was offered in several modalities (knowledge clips, schemes/figures, text) and acquired knowledge was formatively assessed. The innovation was evaluated by comparing the level of knowledge (multiple choice test) and the sense of motivation and self-efficacy (MUSIC questionnaire, Jones, 2015) during four workshops of which two were prepared via e-learning modules and two were prepared with regular self-study (reading book with supportive questions). In addition, student experience with the e-learning modules was evaluated in a focus group. Results showed that e-learning improved the level of knowledge only for the neurology workshops, but not for the immunology workshops (theme x e-learning interaction ($F_{1,138}$ = 8,343, p = 0.005). Motivation and self-efficacy, as measured with the MUSIC questionnaire, were not improved by e-learning ($F_{1,132}$ < 1). However, results from the focus group do show that students perceived the e-learning modules as very valuable, especially when the book was not the easiest reading. Some students started with the e-learning modules to understand the main concepts before continuing with more in-depth information from the book, others used the e-learning modules to check their understanding after studying the book. In addition, students perceived more students engaged during group discussion. Results show that, although the measurable gain in knowledge may be very limited, the use of e-learning modules during self-study could be a valuable method to get more students engagement in collaborative learning.

Literature references

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Longitudinal changes of regulation of deep and stepwise learning strategies in a six-year undergraduate pharmacy programme

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7

Andries S. Koster

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Faculty of Science
Pharmaceutical Sciences

▶ ABSTRACT

In the Netherlands, the pharmacy licensing degree is obtained after a 3-year bachelor plus a 3-year master programme. The Dept. of Pharmaceutical Sciences uses an educational model that is aimed at the development of deep and self-regulating learning, but it is unknown whether this objective is reached.

The aim of this study was to assess longitudinal changes in processing and regulation strategies of students' learning during their progression in the curriculum. Processing strategies (deep vs. stepwise), regulation strategies (self- vs. external), and conceptions of learning (constructivist vs. reproductive) were measured with relevant 5-point Likert scales from the Inventory of Learning Styles[1] between 2005 and 2014. Longitudinal data are reported here for students of which data are available for year 1 and year 5 (n = 30, mean ± sd). Effect sizes and a paired t-tests were used to assess statistical significance. Relationships between conceptions of learning, regulation strategies and processing strategies were analysed using path analysis.

Deep processing increased between year 1 and 5 from 2.79 ± 0.63 to 3.57 ± 0.64 (p = 0.003, effect size 1.2) and self-regulation increased from 2.55 ± 0.64 to 3.03 ± 0.72 (p < 0.01; effect size 0.7). In contrast, stepwise processing and external regulation did not change significantly (p > 0.70; effect sizes < 0.1) between year 1 and 5 for the same students. The use of deep processing strategies is mediated by self-regulation and depends on having a constructivist conception of learning. The use of stepwise processing strategies, in contrast, is mediated by self- and external regulation and depends on having a reproductive conception of learning. In year-5 of the programme deep processing becomes partly dependent on external regulation.

An increase in deep processing and self-regulation strategies of students was observed between year-1 and year-5 of the curriculum. In contrast, stepwise processing and external regulating of learning did not change significantly. This suggests that the six-year programme effectively stimulates the development of deep and self-regulated learning strategies in pharmacy students.

Literature references

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Do challenging applied assignments help students to better understand the link between psychological theory and clinical practice?

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Yolanda van Beek

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Faculty of Social Sciences
Developmental Psychology

▶ ABSTRACT

In previous years students in the advanced course 'Developmental Psychopathology' were often not able to provide adequate answers to open questions in which they had to apply theoretical knowledge to realistic clinical issues. Therefore, a new teaching method was chosen to improve students' understanding.

For two lectures a flipped classroom approach was used, where students had to study a chapter prior to the lecture. They also had to individually submit a challenging assignment prior to the lecture, where they had to apply the theory to a clinical case. After the lectures, students had to work on the assignments again in groups of 4-5. Half of the students did assignment 1, the other half assignment 2. Furthermore, four assignments were provided belonging to other lectures, but without the flipped classroom approach. The small groups also had to submit an answer to one of these assignments. Finally, student groups presented one of the assignments to each other in a general symposium, which were discussed.

Several written and oral evaluations were done during and after the course. The exam consisted of four open questions: one like assignment 2 of the flipped classroom lectures (but now applied to another disorder), two were (partly) like the assignments without the flipped classroom approach and the last question belonged to a lecture without assignment.

Findings showed that students had better grades for open questions regarding lectures with assignments than without. Also mean scores on the question related to the flipped classroom assignment was higher than for questions related to all other assignments. Finally, the students that also worked as a group on assignment 2 of the flipped classroom lectures had better grades than students who only made this assignment individually prior to the lecture. Evaluations indicated that the flipped classroom lectures were interesting and motivating, whereas the appreciation of the group work was more variable.

These findings suggest that challenging applied assignments, especially when given prior to a lecture and especially when students further work on these assignments in small groups can motivate and help students to better understand the link between theoretical knowledge and clinical practice

A peer-reviewed undergraduate journal as a student-centered teaching tool: The case of the Journal of Inter-personal Relations, Intergroup Relations and Identity

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▶ ABSTRACT

The goal of universities is to shape the next generation of scientists and thinkers. Nevertheless, universities in the North-American context offer undergraduate students almost exclusively courses in the form of lectures, where teachers impart knowledge to passively-listening students. While there is increasing evidence that such teacher-centred approaches are less beneficial to learning than student-centred approaches (where the development of students' abilities and interests is the focus), lectures remain predominant in higher education. Two main reasons are given for this. First, student-centred approaches are hard to implement, and second, student-centred learning cannot convey as much information as teacher-centred learning. Our goal is to address these two concerns by introducing a unique student-centred tool: an open-access peer-reviewed scientific journal for and by undergraduate students. The sole focus of this journal *(Journal of Interpersonal Relations, Intergroup Relations and Identity)* is the development of critical thinking and writing skills of undergraduate students. This is done by having the journal managed almost exclusively by an undergraduate editorial team, and by exclusively accepting manuscripts with undergraduate students as first authors. The journal's ease of implementation and usefulness as a teaching tool are reflected in two ways. First, the revision and publication of the journal can be introduced as a formal course in a departments' curriculum (e.g., the psychology department of University of Montreal). Further, all information on the creation and production of such journals has been made open access, easing its implementation. Second, sixty-one of the journal's editorial board members answered a survey on the skills learned from participating in the journal (from 2014 to 2017). Using a Likert scale ranging from 1 (Totally disagree) to 10 (Totally agree), students agreed that they develop their ability to think critically (M = 9.32, SD = 0.89), to give criticism (M = 9.44, SD = 0.77) and their autonomy (M = 8.48, SD = 2.04). While future studies are required, there is enough evidence to suggest that a peer-reviewed scientific journal could be implemented as a useful teaching tool, even in more student-centred contexts such as the Netherlands, thus helping universities fulfil their mission of training future thinkers.

Development and evaluation of a novel undergraduate course-based research concept in biomedical sciences

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▶ ABSTRACT

Academic skills and deep learning evolve better when students apply their knowledge in a relevant context that involves the research cycle, hands-on research, uncertainty in outcomes, and knowledge generation. However, such integration of education and research is currently limited in undergraduate science programs.

In this study, we aimed to develop a novel undergraduate laboratory course-based research concept for biomedical sciences students in synergy with ongoing faculty research.

The novel course, called 'Biomedical Research Lab', is designed according to principles of research-based learning and is positioned as elective course for third-year undergraduate students of the Biomedical Sciences program at Utrecht University. It is a full semester 15-European credit course, in which 16 students work together and hands-on on an actual ongoing research problem of a faculty member. All students work in four interdependent groups on the same research question, albeit from different (methodological) angles, towards a single end-product (scientific paper). Via written questionnaires and three focus-groups, we have evaluated this course at the level of (laboratory) skill development, views and attitudes towards science, and effects on the undergraduate capstone project.

The evaluations showed that students highly appreciated the course (8.8±0.4, ten-point scale, n=16). According to students, the course enhanced both technical laboratory skills and academic skills, including critical thinking, problem solving, independency, collaborative working, reading, and writing skills. Furthermore, students appreciated ownership and responsibilities of the research, the laboratory teachers as role-models, and they were inspired and motivated by doing authentic research that really matters. The views and attitudes of students towards science were further shaped in that all students valued to discover whether doing research is something that suits them. Finally, attendance of the course gave students the scientific skills that strengthened their performance in the undergraduate capstone research project.

We conclude that our novel course-based research concept enhances scientific and academic skills and improves views and attitudes towards science. Since faculty research also benefits from this course and topics can change per course edition, we have showcased how a course-based research concept can create synergy between ongoing research and undergraduate education.

Predictors of study success in the first year of the master programme Pharmacy

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▶ ABSTRACT

A previous retrospective study showed that study duration in the bachelor programme Pharmacy is predictive of study duration in the master Pharmacy (School of Pharmacy, Utrecht University). Furthermore, English reading skills measured at start of the master programme were associated with study success in the preceding bachelor Pharmacy.

The aim of the present study is to evaluate whether English reading skills measured at the end of the bachelor programme are predictive of study success in the first year of the master programme Pharmacy.

We conducted a prospective study among 112 first-year master students who enrolled the programme in February 2017 (n=44) and September 2017 (n=68). Their study duration in the bachelor Pharmacy was categorised as follows: 0-36 months (nominal study duration), 37-48 months (nominal + 1 year) or more than 48 months. The English reading skills (vwo level; B2 Common European Framework of Reference) were assessed (fail or pass) shortly before entering the master programme. Study success in year 1 of the master programme Pharmacy was defined as 30 European credits (EC) or more out of 60 received after 12 months. The association between study duration and English reading skills was assessed using a multivariable logistic regression analysis.

Overall, 16 (14.3%) students had acquired less than 30 EC. Results of the English reading tests were available for 96 students of whom 24 (25%) did not pass. In the multivariable model, both a study duration in the bachelor programme of more than 48 months and failing the English reading test were independently associated with poor study success in the first year of the master programme with odds ratios 4.3 (95% confidence interval 1.4-12.9) and 4.8 (95% confidence interval 1.5-15.1), respectively.

Both study duration in the bachelor programme Pharmacy and the results of an English reading test are independent predictors of study success in year 1 of the master programme. Follow-up study will be conducted to evaluate how English reading skills are associated with overall study duration in the master programme Pharmacy.

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Humanities Research Methods in a Liberal Arts & Sciences program

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▶ ABSTRACT

The humanities research methods course at University College Utrecht is one of the graduation requirements for students who major in a humanities discipline, in law, or in politics. There are several challenges to the design of such a course in a Liberal Arts and Sciences (LA&S) context. In this paper, we review the literature on the teaching of research methods across the humanities and beyond. In the life sciences and the social sciences there is a strong tradition of teaching research methods, often in separate modules devoted to statistics or lab skills. Reflection on how to teach research methods is especially well-developed in the social sciences. Such traditions—a tradition of teaching research skills to undergraduate and graduate students, as well as the scholarly reflection on teaching these skills—are much less prominent in the humanities. This is a pity, for this type of reflection can help teachers in the humanities to articulate the distinctions between different approaches.

Secondly, we assessed student experiences of the humanities research methods course at UCU, using surveys and interviews, to explore to what extent the course deals with aforementioned challenges, and to find out where improvement is possible. Our research suggests that the value of the Humanities Lab at UCU lies in helping student develop an interdisciplinary research identity, rather than in directly preparing them for writing a BA-thesis within a specific discipline. The relevance of the course could be enhanced through making students relate the methods of the (prospective) discipline in which they will write their thesis to other humanities research methods, and by encouraging teachers in disciplinary courses to make explicit references to research methods.

The Co-Challenge course: Combining a hackathon model and community service learning to stimulate university students' soft skill development

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▶ ABSTRACT

The interest in the development of soft skills has been growing over the past years and researchers stress the importance of soft skills for a capable 21st century workforce. Utrecht University also focus on skills to contribute to society in her strategic plan 2016-2020. This study therefore implemented a two-week, 3ECTS course with the focus on skills using an adaptation of a hackathon model combined with community service learning. Characteristics of the hackathon model are designing a solution for a problem, in teams and in a short and intense manner. With community service learning, academic instruction, practical experience, and community involvement are combined. Therefore, during the course, students followed workshops on a variety of skills (e.g., interviewing and design thinking), content-related seminars, and received individual and team coaching. The municipality of Utrecht posed one of their problems to the students, which was loneliness.

   We asked students via open-ended questions about their experiences with the course and found that students were very motivated during the course. This was mainly because of the pressure-cooker format where students worked together in team with a team limit and because of the societal aspects where the municipality was interested in students' solutions. Students feel that they have mainly learned about social problem solving, interdisciplinary collaboration, and (reflecting on) their professional development. We conclude that combining the hackathon model with community service learning helped students to develop the skills closely related to both approaches. Furthermore, it also provides insight in a new teaching method and how to implement this method based on theory. Organising this course mainly needs an interdisciplinary team, enthusiastic students, and flexibility. You will end up with a win-win situation as the municipality are provided with a fresh think-tank and the university delivers more aware and skilled students.

Facilitating learning: supporting students' self-improvement through reflective use of feedback

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▶ ABSTRACT

'Assessment and feedback' are the experiences with which students report least satisfaction in the UK National Student Survey. Academics are keen to find methods of delivering recognisably effective feedback; however, with funding cuts to the sector, improvements must necessarily be efficient and not overly burdensome to teaching staff. Hulme and Forshaw (2009) found that both students and tutors valued verbal feedback mechanisms, but that these were considered to be time consuming and inefficient. This study investigated a method of delivering verbal feedback efficiently using timetabled teaching time.

   This study investigated the use of an alternative method of feedback return across three cohorts studying a biological psychology module (second undergraduate year). In year 1, students' marked coursework was returned at an interim point in the module, with structured written feedback on four transferable skills: literature searching, reading for understanding, academic writing and critical evaluation. In year 2, the same feedback model was employed, but students were guided (in seminar groups of 15-20 students) to reflect on their strengths and weaknesses with regard to each skill, and to identify benefits and strategies for improvement. In year 3, the same procedure was used, but an earlier additional formative assessment opportunity was provided. At the end of the module, feedback was evaluated, and students were examined and marked on the same four skills.

   Students consistently rated feedback as better than that received in other modules and intended to continue to self-improve using feedback. Statistical analysis revealed that participating in guided reflection significantly improved students' performance in the subsequent examination, and also demonstrated the value of early formative assessment opportunities for overall student achievement. A model of good practice for feedback return is proposed, which can enhance student learning from feedback whilst being efficient for tutors to deliver.

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Evaluating the effect of a virtual simulator on teaching communication skills

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▶ ABSTRACT

For many professions, the ability to communicate (vocally) is an essential skill. Training, for instance, professional-client communication is labour intensive however, as it often involves one-on-one interactions with a skilled trainer or actor. To improve teaching communication, a virtual simulator called *Communicate!* was developed by Utrecht University[1]. In *Communicate!,* a student plays a scenario and holds a consultation with a virtual character. Teachers can build scenarios and apply specific scenarios to be used as practice for students or even as assessment method.

We wondered if the use of *Communicate!* can be an effective aid to study communication skills in several operationalisations of learning outcomes. For this abstract we focus on acquiring theoretical knowledge about communication techniques.

We devised two experiments (n = 128 and 133, a year apart) where the use of Communicate! was compared to more traditional learning tools, such as literature study and a lecture, in an undergraduate psychology communication-skills course. In both experiments (optional for the students in the course) we used a randomised controlled trial approach. Students in the course were divided in four groups, two of which both read an article about giving bad news in a dialogue and played a bad-news-dialogue-scenario (but in different order), while the third group only played the scenario. In the first experiment the final group only read the article, in the second experiment the final group read the article and listened to a lecture on bad news dialogues. The outcome measure we present here was performance on a multiple-choice test (about the theoretical underpinnings of this type of dialogue) administered at the end of the session.

In both experiments playing both the scenario and reading the article resulted in better performance on the multiple-choice test (on communication skills) than reading the article alone, an effect mimicked by replacing the scenario by the lecture. This is surprising, given that Communicate! was designed for practising skills, not acquiring theoretical knowledge.

Our results show that educational interventions such as the one presented here can have unexpected effects on student learning, a phenomenon worth considering when evaluating the effects of such educational innovations.

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Developing engaged citizenship through student engagement in course design

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▶ ABSTRACT

This poster reports on a practitioner inquiry with elements of participatory action research. It presents some preliminary outcomes of a student engagement experience undertaken at an undergraduate college. Six students and an alumna participated in a teacher-student partnership with the researcher to co-design a new course in critical intercultural communication.

One of the intended learning outcomes of the college is to foster attitudes and skills for engaged citizenship, including international and intercultural understanding, social skills and a will to contribute to solving societal issues. I aimed at exploring pedagogies that can deliver on the intended learning outcome for engaged citizenship.

The teacher-student partnership was envisioned as a laboratory of democracy, aimed at offering students a site where the educational objectives of the college concerning engaged citizenship are examined, embodied and negotiated by those to which they apply. In the field of education for global citizenship, active community engagement is considered an important aspect: educational institutions should provide students with opportunities to experiment with democratic processes of co-designing their learning environment and co-creating knowledge and curriculum that matter to them.

The data collected are of qualitative nature (application forms, focus groups, reflective journals, etc.). Using thematic analysis, I aim at understanding if processes of participation, knowledge creation and public deliberation in an educational setting facilitate transformative change, which can occur at ontological, epistemological and practical level.

Preliminary analysis of the qualitative data collected shows that engaging with theories of global citizenship and intercultural education in the partnership impacted on students' perception of themselves as global citizens and as learners. Students seem to adopt a more active role, taking agency in their learning environment and process, and in the society around them. Teacher-student partnerships for curriculum co-design can thus be valuable pedagogic choices to foster skills, attitudes and behavior for democratic citizenship. The challenge for both teachers and students is related to negotiating the power-roles. For teachers it might be difficult to let go the control over the project; while students might still expect structure and guidance from the teacher and find it hard to take extensive responsibilities.

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▶ ABSTRACT

Clinical reasoning is an important skill for pharmacists. Bachelor pharmacy students are introduced to this concept in the final course of their first year, that covers the cardiovascular system and treatment of high blood pressure. This course ends with a tutorial on clinical reasoning, in which complex cases are discussed. For this tutorial, I introduced *Clinical Reasoning—The Game*. In this game, students formed small groups and each group represented a pharmacy. Points could be earned for each right and informed clinical choice. The pharmacy with most points won the game.

With this game I tried to achieve three goals. 1) The active participation of the students. 2) To give students a first impression of what it's like to be a pharmacist by addressing them as pharmacists. 3) To have some fun in their last tutorial of their first year.

The game was evaluated using a questionnaire that nearly all participating students (101 students) completed directly at the end of the tutorial. The teachers involved were also interviewed about their experiences.

The game stimulated 77% of the students to actively participate. Of all students, 58% agreed that addressing them as a pharmacist made them imagine what it's like to be a pharmacist and 96% thought the game was fun. Nearly all students (98%) recommended the game to be repeated next year. The teachers were also positive about the game.

However, they noticed that not all students were sufficiently prepared, which hindered the game.

Based on these results, I recommend the implementation of this game as a teaching method on clinical reasoning. To make more students experience what it is like to be a pharmacist, I recommend that students should not only be addressed as pharmacists during the game, but also in the written material they receive before and during the tutorial.

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▶ ABSTRACT

To ensure quality education, all Dutch universities require faculty members who teach to obtain teaching qualifications. At Utrecht University medical faculty, a significant number of teachers struggle to complete their portfolio-based teaching qualification. Literature suggests that clinician teachers may face unique challenges. With the goal of improving the teaching qualification process, we studied the context and barriers experienced by clinician teachers, both completers and non-completers of the process.

To improve support to the teaching faculty at UMC Utrecht, we investigated the context, facilitators and barriers experienced around the qualification process.

Clinician teachers who obtained their teaching qualification between January 2012 and September 2015 completed an anonymous evaluation of the process. We conducted a focus group with current clinician teachers actively in the process of obtaining their qualification and semi-structured interviews with those who are stalled or have never started the process. We asked them to discuss perceived challenges in the process and recommend solutions. We performed thematic analysis of all evaluation comments and transcripts using open and axial coding.

Of 156 clinician teachers approached, 83 (53.2%) completed the evaluation; 7 of 25 (28.0%) participated in the focus group, and 8 of 23 (34.8%) agreed to be interviewed. We identified three themes related to context and barriers (a) clinician teachers were unclear on the purpose of the teaching qualification, licensing versus faculty development, and only valued the latter; (b) they described lack of transparency and support for the process within the work environment, and (c) they cited a culture of devaluing education compared to other tasks in the medical centre's clinical departments.

Busy clinician teachers appreciate faculty development. However, a teaching qualification process identified as heavily administrative is not worth their effort in an environment with perceived low support and value for education. Required teaching qualification programs should pay attention to faculty members' lived experiences and create environments that are both structurally and culturally supportive.

Once a nurse always a nurse? A study of identity development over a two-year leadership programme for postdoctoral nursing-scientists

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▶ ABSTRACT

Clinician-scientists, such as nursing-scientists, are bi-directional (knowledge) brokers between care and research. By connecting these fields, they strengthen patient-orientation in research, and enhance clinical application of research and innovation in care. International concern exists about the low numbers among this important category of scientists[1]. The 'Leadership and Mentoring in Nursing Research (LMNR)' programme was developed for postdoctoral nursing-scientists to stimulate research capacity within the nursing science field. Formation of an integrated professional identity is considered an important learning outcome of clinician-scientist programmes to enhance brokering and career resilience[2].

We studied professional identity development over the course of a two-year leadership programme for nursing scientists.

Semi-structured interviews were conducted with the LMNR participants: first upon starting in 2016 (n=12: 25% male, age 43 [range 30-54] year), midterm in 2017 (n=11), and lastly after graduation in 2018 (n=10). Interviews were transcribed verbatim, thematically analysed and discussed using dialogical self theory[3]. Results were member-checked.

During programme all participants were engaged in postdoctoral research (n=12), often combined with education (n=8), patient care (n=4), or policy and/or management (n=3). Over the course of the programme two participants stopped for personal reasons. Participants reported increased awareness of their different identity positions as a researcher and nurse. Many then released this dichotomy for a new identity as 'scientist leader of and for nursing and nurses'. Their clinical identity expanded from being an active specialist clinician to becoming an active member of a wider community with trans-specialist interests. Fundamentally, there was a strong desire to retain a nurse identity. Participants maintained acceptance among nursing peers and strengthened (group) connection with nursing-scientist peers as they sought innovative ways of embedding themselves within the wider field of nursing, aiming to enable/lead (knowledge) brokerage between the worlds of (nursing) science and practice.

The leadership programme strengthened and solidified a nursing-scientist leader identity. Although literature defines clinician-scientists as researchers active in direct care, our study indicates that clinical practice as 'hands-on care' is not necessarily a prerequisite for strong nursing-scientist identity.

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Curriculum innovation: the Seneca Program at UCU

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▶ ABSTRACT

The Seneca Program at UCU funds projects developed by its faculty members. Projects are selected based on their potential to innovate UCUs liberal arts curriculum. One of the main aims underlying the Seneca program is to provide opportunities for UCUs faculty members to contribute in diverse and original ways to UCUs educational program. It is this *faculty development* aspect of the Seneca program that was evaluated in the research presented here.

Two EdSci master's students conducted an evaluation of the Seneca program by studying the different levels of impact of a professional development program as outlined by Guskey (1999): (1) reactions of faculty members, (2) learning of faculty members (knowledge and skills) and the use thereof, (3) organizational support and change, and (4) student learning. Semi-structured interviews were conducted with 7 faculty members about their Seneca project. Three focus group meetings with participating students were held. Faculty members as well as students and student representatives filled out surveys. Lastly, three members of UCUs management were interviewed about the Seneca program.

While all faculty members valued their Seneca experience, each of them—due to the diversity of the projects—had a very different learning experience. Some projects allowed for a deepening of subject matter knowledge, while others rather broadened faculty members' knowledge. Certain projects led to increased organizational skills, afforded attitude change, or a change in teaching practice. For students learning was similarly diverse. What stood out for them as valuable was the opportunity to work closely with faculty members. The hands-on experience with research in some projects, or in connecting their course-work to the broader world in others, was experienced as important and empowering.

Our recommendations for the future of the Seneca program (and similar programs) are informed by our research and by the literature (see references). They include: (1) strengthening the learning community through increased communication about (and mutual 'celebration' of) Seneca projects, (2) evaluating and thereby demonstrating the effectiveness of the Seneca innovations (e.g. through a SoTL program), and (3) setting specific learning goals for faculty members in order to provide tailor-made support.

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Impact of interdisciplinary communities of teachers on enhancing the scholarship of teaching and learning

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▶ ABSTRACT

An important aspect of making SoTL an integral part of a learning culture is a sustainable change owned by the teachers[1]. Including SoTL in their approach to teaching, often means that teachers have to move beyond disciplinary research boundaries and get familiar with other research methods[2, 3]. SoTL- communities, where teachers peer review each other's projects, can be a driving force to support teachers in getting familiar with the methods of SoTL[2, 3].

Within Utrecht University, until now, very few teachers are involved in SoTL, and no institutional support or teacher development programs involving SoTL are offered. The aim of this pilot project was to study the effect of interdisciplinary communities of teachers on their engagement in SoTL.

Two interdisciplinary communities of practitioners were formed2. In the first community teachers from the whole university could get involved on a voluntary basis. The second community consisted of teachers from different disciplines of the Faculty of Science and was part of a wider project on teaching innovations. Teachers met on a monthly basis to get instruction about methods of SoTL, and exchange experiences with their peers. The participants received a questionnaire at the beginning and the end of their SoTL-project with questions about their views, behaviour and attitude towards SoTL. In addition, several participants were interviewed at the end of their SoTL-projects.

The participants enjoyed being part of the community. Most of them managed to make scholarly changes in their teaching and showed changes in their views on teaching and learning. Participants still expressed a general feeling that they had to do it 'all alone' in their own time, making them feel extra workload. In addition, they felt that the time spend on the project was not appreciated. Especially in the voluntary group this led to a drop out of more than half of the participants.

The first experiences of this pilot emphasize the importance of support structures, especially the support of the institute and the appreciation of teachers engaged in SoTL. Giving dedicated time for SoTL and valuing their contribution to teaching and learning seems the most important.

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Do we agree? High-stakes decision making in programmatic assessment

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▶ ABSTRACT

In competency-based health professions education the emphasis has shifted towards outcomes, capabilities and learner-centeredness. This shift called for new methods of teaching and assessment. A model for programmatic assessment has been proposed aiming to optimize learning and high-stakes decision making in a program of assessment. A high-stakes decision takes place after a longer period for promotion or certification purposes. According to the principles of programmatic assessment a valid high-stakes decision should amongst others be based on a multitude of data points enabling the assessor to get a full picture of the students' performance. In ensuring sufficient information, programs often set minimum requirements for the number of data points in a portfolio.

In this study we aim to explore whether the number of data points relates to the agreement on the high-stakes decision by assessors.

We included the portfolios of 352 veterinary students who finished their clinical clerkships. These students recorded their performance in a portfolio by collecting multiple workplace-based assessment tools (data points). The number of data points were corrected for the minimum requirements. Each portfolio was assessed independently by two assessors on a 4 to 10 scale. The data were analyzed by a multiple logistic regression model, including covariates.

Backwards stepwise selection resulted in a final logistic regression model with no predictors included. Thus, we found no relation between the number of data points regarding and the agreement between assessors. This suggests that there are other factors involved in the agreement only or possibly that the minimum requirements are sufficient to get a full picture of the student[1].

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Programmatic assessment in competency-based workplace learning and the efficiency of learning over time: when theory meets practice

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▶ ABSTRACT

Competency based education (CBE) is now pervasive in Health Professions Education. A core purpose of CBE is to assess and identify the progression of competency development. Together with emphasis on sustained evidence of professional competence this calls for new methods of teaching and assessment. A model for programmatic assessment has been proposed that simultaneously optimizes assessment for learning and high-stakes decision making. The aim of this study is to investigate if programmatic assessment, i.e., a system of assessment, can be used within a CBE framework to track progression of student learning within and across competencies over time.

Scores from three assessment methods were combined to assess the same and different competencies to provide a holistic overview for both formative and summative purposes. We performed a retrospective quantitative analysis using hierarchical linear modeling of individual assessment data points collected by 962 learners to assess variation in scores due to repeated measures, competency, assessment method and student.

The results showed a sigmoidal learning curve when mean scores over time were collapsed for learner, method and competency domain. Random coefficient modelling indicated that variance due to inter-student performance differences was highest (40%). The reliability coefficients of scores from assessment methods ranged from .86 to .90. Method and competency variance components were in the small-to-moderate range.

The results indicate that students start at different competency levels (scores) and scores increase over time as students advance through their clinical rotations. This finding provides supporting evidence for the program of assessment working effectively as it is designed. The current validation evidence provides cause for optimism regarding the explicit development and implementation of a program of assessment within CBE. The majority of the variance in scores appears to be student-related and reliable, supporting the psychometric properties as well as both formative and summative score applications.

We provide preliminary validation evidence from both descriptive and modeling analyses to support the explicit development and implementation of a program of assessment meant for both student learning and summative decision purposes [1].

Literature references

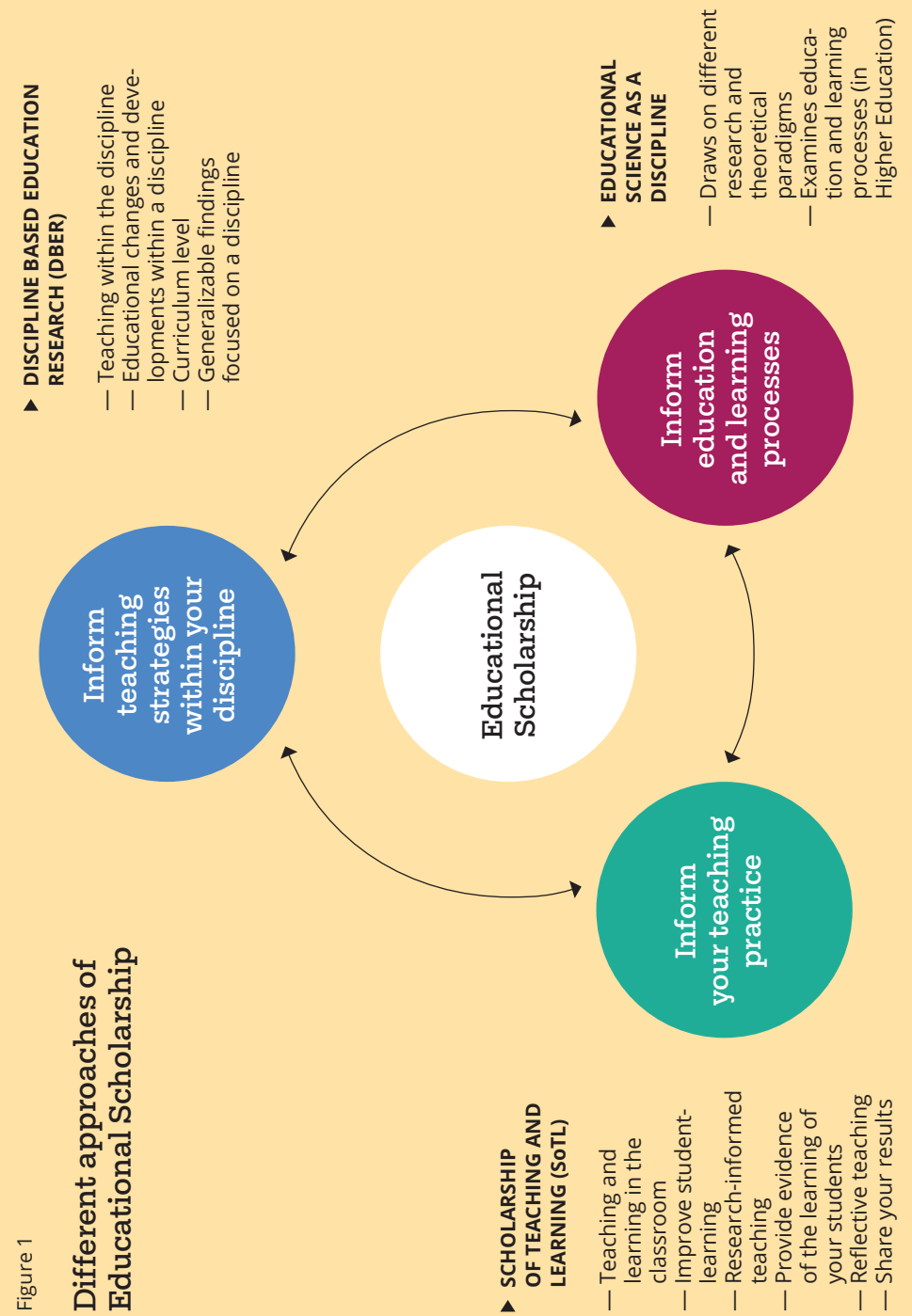[1] Bok, H.G.J., de Jong, L.H., O'Neill, T. et al. Perspect Med Educ (2018) 7: 362. https://doi.org/10.1007/s40037-018-0481-2

Figure 1

Different approaches of Educational Scholarship

▲ DISCIPLINE BASED EDUCATION RESEARCH (DBER)
— Teaching within the discipline
— Educational changes and developments within a discipline
— Curriculum level
— Generalizable findings focused on a discipline

▲ EDUCATIONAL SCIENCE AS A DISCIPLINE
— Draws on different research and theoretical paradigms
— Examines education and learning processes (in Higher Education)

▲ SCHOLARSHIP OF TEACHING AND LEARNING (SoTL)
— Teaching and learning in the classroom
— Improve student-learning
— Research-informed teaching
— Provide evidence of the learning of your students
— Reflective teaching
— Share your results