

Onderwijs **Festival**

6 maart 2025

7th Utrecht Scholarship of
Teaching & Learning Conference



**Utrecht
University**

**Centre for Academic
Teaching and Learning**

This booklet contains all the abstracts
as presented during the sixth Utrecht
Scholarship of Teaching and Learning
conference on Thursday the 6th of
March 2025, during Utrecht University's
OnderwijsFestival.
Photography: Lize Kraan

Welcome!

Welcome to the seventh Utrecht Scholarship of Teaching and Learning conference – a strand in the programme of the OnderwijsFestival.

The OnderwijsFestival is the stage for students, teachers and all of our other university staff. They come together on this day to share information and exchange ideas about the quality and developments in education, but above all to meet each other, relax and get inspired. The theme of the OnderwijsFestival 2025 is the personal and professional development of students and employees of the UU.

During the OnderwijsFestival, special attention will be paid to teachers and staff who are doing research on their own teaching (Scholarship of Teaching and Learning, SoTL) and want to share their (research-informed) plans, progress and results. Teachers from all disciplines are invited to present their projects aimed at promoting student learning. This entails educational projects that are research-informed (i.e. by building upon educational literature) or focused on researching education in a systematic and research-based manner.

Today, we aim to bring together the research on teaching and learning network at Utrecht University. We give a special welcome to colleagues from other higher education institutions in the Netherlands and abroad that join us today.

The SoTL abstracts were selected by a committee that developed the SoTL strand in the programme as well. The committee consisted of Vincent Crone (chair), Emanuel van Dongen, Anneke Houwelingen, Femke Kirschner, Marije Lesterhuis, Carlijn van den Boomen, Rik Vangangelt and Noah Riem.

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.

Educational Scholarship? Why, what and how?

This is the seventh Utrecht Scholarship of Teaching and Learning conference. The success of the conference relies on the participants and the contributions of all those teachers who are engaged with educational scholarship. Utrecht University tries to support this educational scholarship, to stimulate a research-informed teaching and learning practice. In research-informed education, disciplinary knowledge, practical knowledge and scientific knowledge are combined to enhance student learning. The aim of educational scholarship is to enlarge the knowledge-base on academic teaching.

Both Scholarship of Teaching and Learning (SoTL) and Discipline-Based Education Research (DBER) are research-informed approaches to teaching. When the aim of conducting research on your education is primarily to inform your own teaching practice, we speak about SoTL. When the aim is towards contributing to the knowledge base of teaching within your discipline, we speak about DBER. There is no strict division between these approaches, rather they form a continuum of decreasing context-specificity, see figure 1 (at the end of this booklet).

What is Scholarship of Teaching and Learning?

The main aim of the systematic approach of SoTL is to improve the teaching and learning of students. To do so, teachers 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 are that, based on a problem or question that teachers 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 on the learning of the students, and the data is shared, either locally or wider at a conference or through a peer-reviewed publication.² In SoTL the emphasis is therefore not on general educational theory creation, but on the application of (disciplinary) educational knowledge for 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.

What is Discipline-Based Educational Research?

The main aim of DBER is to contribute to the general knowledge about teaching within the discipline (and sometimes even generalizable outside your discipline). 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 As is the case between SoTL and DBER, again there is no strict division between DBER and general education research, but a continuum with increasing generalizability.

DBER is often relevant for the whole disciplinary field, and sometimes even outside the field, and in contrast to SoTL the emphasis is on the 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.

Supporting Educational Scholarship

The Centre for Academic Teaching and Learning tries to facilitate and stimulate educational scholarship with:

1. network and community events
2. courses and programmes
3. support and resources
4. projects and visibility

1. Network and community events

Besides this SoTL conference, we bring together our active SoTL community in Special Interest Group meetings throughout the year. Utrecht University's research focus area Higher Education Research brings together discipline-based and educational sciences researchers. As an example, in November 2023, Utrecht University hosted the annual conference of the International Society for the SoTL (ISSOTL23).

2. Courses and programmes

To help teachers develop educational scholarship competencies, we offer both basic SoTL courses and support, as well as advanced longitudinal programmes, e.g., the Educational Research Training Programme for university teachers. Several times a year, on-site and online workshops or masterclasses are offered in order to introduce teachers to SoTL or to become more skilled in certain aspects of SoTL, e.g., during the biannual Teaching and Learning Inspiration Days.

3. Support and resources

The practical step-by-step Utrecht Roadmap for SoTL, helps teachers to systematically research their own teaching practices when they want to optimise them and professionalise by gaining knowledge about their students' learning. Teachers can apply for financial support in the SoTL grant scheme, which funds methodological advice or student assistants collecting or analysing data. The Higher Education Research grants fund (pilot) research of (discipline based) educational scientists.

4. Projects and visibility

The CAT website and newsletter offers scholarship projects a platform. Also, multiple experts that focus on educational scholarship are willing to help you out, e.g., multiple educational consultants, a senior fellow and PhD student.

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.* 1th Ed.; Routledge: Oxon, UK
3. National Research Council (2012) *Discipline-based Education Research. Understanding and improving learning in undergraduate science and engineering.* 1th Ed.; National Academies Press: Washington, USA



Please find the full programme of the OnderwijsFestival at www.onderwijsfestivaluu.nl.



Programme

In the programme, some sessions focus on the Scholarship of Teaching and Learning:

Ethical educational research: what and how? (10:15 - 11:15)

In the Faculty Club, by Anneke van Houwelingen and Rik Vangangelt (in Dutch)

When you're researching your own educational practices and collect data of your students, you have to think about hierarchy, consent, accessibility and trust. Is it possible to use student's essays for your analysis? How do you prevent that students are subject to interventions that happen for a good cause but are possibly less effective? Are you able to be the teacher and the researcher at the same moment? Do you always have to pitch your research at the ethical committee?

During this session, together with Anneke van Houwelingen and Rik Vangangelt, the audience participates in a dialogue about ethical dilemma's that arise during the research of practices in Higher Education (i.e. Scholarship of Teaching and learning). Furthermore, they will share some tips and tricks about requesting ethical permission for educational research within your own faculty.

Onderwijs, onderzoek en onderwijsonderzoek van de Universiteit Utrecht: Interactieve Q&A met Bald de Vries (12:45 - 13:45)

In the Maskeradezaal with Carlijn den Boomen, Emanuel van Dongen, Renske de Kleijn and Irma Meijerman. Hosted by Bald de Vries

You have probably heard about Higher Education Research and Scholarship of Teaching and Learning during your time at Utrecht University. However, you may have some doubts and questions about these two focus areas at the UU?

The UU and the Centre for Academic Teaching and Learning together have a main mission: facilitating and stimulating teachers and staff to investigate their own education and its practices and implement innovations to daily improve higher education at our university. Therefore, the pillars of Scholarship of Teaching and Education (SoTL) and Higher Education Research (HER) have been established. SoTL helps to facilitate and finance small-scale projects regarding your own education, such as the implementation of new teaching activities. HER aids to facilitate exchange and collaboration between researchers of different disciplines to increase our shared knowledge about higher education.

Programme

What kind of support can you expect from SoTL and HER? How do you investigate your own educational practices? Which steps do you need to take as preparation for educational research?

Bald de Vries moderates an interactive Q&A-session for all your remaining questions, together with Irma Meijerman, Renske de Kleijn, Carlijn van den Boomen and Emanuel van Dongen.

Teaching in Action: Exploring and Evolving Higher Education Together: Poster session in the Senaatszaal (14:00 - 15:00)

While working as a teacher, there might be some questions that arise during your own educational practices. Are you wondering which teaching methods are the most efficient? How can you measure information retention of students during lectures or tutorial? Teachers all over the university encountered the same issues, and they started to investigate these topics. During this poster session, teachers from various disciplines will present their scientific research on their own educational practices. Here, you will have the chance to interact with them and share your perspective on their research. Maybe there is something that you want to put to practice during your next lesson or maybe you have an idea that can be put on trial for investigation!

The following posters are included:

- I. **Using colors, cards and conversations to organize valuable student evaluations**
Marije van Braak, Lisanne Hagenbreuk and Esther van Dijk
- II. **Teaching Decolonial Heritage in Bonaire: Cultural Reflexive Learning in Practice**
Christianne Smit and Gertjan Plets
- III. **Needs of participants in university continuing education**
Hanne ten Berge, Ineke Lam, Frans Prins and Wieger Bakker
- IV. **Pass-fail grading in a theoretical course**
Lisa Levelt, Leslie van der Leer, Chris Harris, Robert Weijers, Reine van der Wal
- V. **Evaluating the use of microlearning tool Redgrasp in Pharmacology teaching**
Rahul Pandit and Roma van Dijkhuizen

- VI. Use of generative AI in scientific writing in the bachelor Biology
Inge The, Ben Nelemans and Tessa Gaarenstroom

- VII. Investigating the impact of inquiry style tutorials on student engagement
Jennifer Casey, Ingmar Bruggeman, Matthias Schwalbe and Pieter Bruijninx

- VIII. The hidden lessons of scientific writing: implicit notions relating to the nature of science
Annelies Pieterman-Bos

- IX. Teachers' and students' perspectives on the usefulness of e-modules supporting academic skill development: focus group findings
Leonie Brummers

- X. Creating a virtual fieldwork experience for oceanography
- XI. VR and gamification of the Virtual Ship Classroom (presented together with the previous project on one poster)
Emma Daniëls

Submitted abstracts

On the following pages you can find the abstracts of completed research projects.

I. Using colors, cards and conversations to organize valuable student evaluations

Marije van Braak, Lianne Hagenbreuk and Esther van Dijk

page 14

II. Teaching Decolonial Heritage in Bonaire: Cultural Reflexive Learning in Practice

Christianne Smit and Gertjan Plets

page 16

III. Needs of participants in university continuing education

Hanne ten Berge, Ineke Lam, Frans Prins and Wieger Bakker

page 18

IV. Pass-fail grading in a theoretical course

Lisa Levelt, Leslie van der Leer, Chris Harris, Robert Weijers, Reine van der Wal

page 20

V. Evaluating the use of microlearning tool Redgrasp in Pharmacology teaching

Rahul Pandit and Roma van Dijkhuizen

page 22

VI. Use of generative AI in scientific writing in the bachelor Biology

Inge The, Ben Nelemans and Tessa Gaarenstroom

page 24

VII. Investigating the impact of inquiry style tutorials on student engagement

Jennifer Casey, Ingmar Bruggeman, Matthias Schwalbe and Pieter Bruijnincx

page 26

VIII. The hidden lessons of scientific writing: implicit notions relating to the nature of science

Annelies Pieterman-Bos

page 28

IX. Teachers' and students' perspectives on the usefulness of e-modules supporting academic skill development: focus group findings

Leonie Brummers

page 30

X. Creating a virtual fieldwork experience for oceanography

Emma Daniëls

page 32

XI. VR and gamification of the Virtual Ship Classroom (presented together with the previous project on one poster)

Emma Daniëls

page 34

I. Using colors, cards and conversations to organize valuable student evaluations

POSTER

<i>Author(s)</i>	<i>Marije van Braak, Lisanne Hagenbreuk and Esther van Dijk</i>	<i>Key-words:</i>
<i>University</i>	<i>Utrecht University</i>	<i>• Student evaluations of courses of teaching;</i>
<i>Faculty</i>	<i>Humanities</i>	<i>• Creative, experience-based;</i>
<i>Department</i>	<i>Language, Literature and Communication</i>	<i>• Conversations;</i>
		<i>• Caracal</i>

Introduction

Current practices of student evaluations of teaching assume that students can evaluate the quality of education and teaching and that such quality is objectively measurable. There are, however, signals that students may not be equipped to evaluate teaching (e.g. Fawns, Aitken, & Jones, 2021). Also, the idea that educational quality can objectively and valuably be measured is increasingly criticized (e.g. van der Schoot, 2020). Scholars argue that we need ecological evaluation means to appreciate the complexity and interpersonal quality of the educational setting (Fawns et al., 2021) – for example, dialogic ways of evaluating.

Aim and research question

In this SoTL-project, we aimed to explore an alternative student evaluation using colors, cards and conversations in a first-year CIW-course, asking (1) how this alternative worked out, (2) how students and teachers valued this alternative student evaluation, and (3) how the input gained by these alternative student evaluations compared to input gained from Caracal evaluations.

Set-up and method

The teachers of the course piloted the alternative form of evaluation in the last seminar. Students were asked to paint their associations with the seminars, lectures, seminar teacher, and the course in general, or to choose a card from the game Dixit that matched their experiences with those four aspects. Then, they were asked to pair up and discuss their four paintings or cards, describing what their associations were and asking questions about that. The conversations were recorded and transcribed, and stored with a picture of the paintings/ chosen cards. Twenty conversations were useful for thematic analysis.

II. Teaching Decolonial Heritage in Bonaire: Cultural Reflexive Learning in Practice

POSTER

<i>Authors</i>	<i>Christianne Smit and Gertjan Plets</i>	<i>Key-words:</i>
<i>University</i>	<i>Utrecht University</i>	<ul style="list-style-type: none">• <i>CEL;</i>
<i>Faculty</i>	<i>Humanities</i>	<ul style="list-style-type: none">• <i>Intercultural competencies;</i>
<i>Department</i>	<i>History and Art History</i>	<ul style="list-style-type: none">• <i>Cultural reflexivity;</i>• <i>Teaching decolonial heritage</i>

Introduction

The Community-engaged learning project “Making Bonairean Heritage Together” has been designed as a showcase to teach students decolonial heritage practices in co-creation with external partners within an international environment.

Aim and research question

This project examined students’ development of intercultural competencies, cultural reflexivity, and awareness of decolonial heritage practices through collaboration in intercultural contexts and heritage training. It aligned with higher education’s focus on fostering understanding, communication, and self-awareness, emphasizing the transformative potential of intercultural learning (Biesta, 2022; Deardorff, 2006).

The project aimed to move beyond traditional heritage practices by addressing heritage’s cultural and political dimensions, informed by decolonial scholarship (Harrison, 2012). Advocating for grassroots, community-driven models, it explored how students could critically engage with heritage’s political connections while fostering dialogue and collaboration with formerly colonized communities.

Set-up and method

As part of a Master’s tutorial in Cultural History and Heritage, students collaborated with a museum on Bonaire to co-develop a decolonial exhibition concept. Their voluntary, non-graded reflections were analyzed on intercultural experiences through research questions addressing misunderstanding, meaningful learning, cultural reflexivity, and awareness of decolonial practices.

(Preliminary) results

Students’ reflections revealed recurring discomfort about their role in shaping Bonairean

III. Needs of participants in university continuing education

POSTER

<i>Author(s)</i>	<i>Hanne ten Berge^{1,1}, Ineke Lam^{1,1}, Frans Prins^{1,2} and Wieger Bakker^{2,3}</i>	<i>Key-words:</i> <ul style="list-style-type: none">• <i>Educational design;</i>• <i>University continuing education</i>
<i>University</i>	<i>Utrecht University</i>	
<i>Faculty</i>	<i>¹ Social and Behavioural Sciences</i>	
	<i>² Law, Economics & Governance</i>	
<i>Department</i>	<i>¹ Educational Development & Training</i>	
	<i>² Education and Pedagogy</i>	
	<i>³ Life Long Learning Platform UU</i>	

Introduction

Utrecht University wants to contribute to the major joint task to expand the participation in lifelong learning-activities in the Netherlands. However, empirical knowledge on how to design university continuing education (UCE) is scarce. To fill this gap, we started a PhD-research titled 'Evidence Informed Design Principles for University Continuing Education; Shaping the needs of Professionals and Educators'. This study is the first of this PhD-research project.

Aim and research question

The aim of this sub-study of the PhD-research project is to create a knowledge base on the learning needs of the target group for UCE as perceived by potential participants and their employers (needs articulated by) on the one hand and by educators (needs articulated for) on the other hand. The research question for this study is: What are the needs reported by and for professionals that need to be considered for the design of university continuing education to create an attractive curriculum with favourable learning conditions?

Set-up and method

The study consists of a narrative review (Siddaway et al., 2019). The search gained 891 articles of which 66 articles remained after deduplication and after selection based on title and abstract and full text selection. The articles were coded manually in NVivo. Besides the distinction between needs by and needs for, no codes were created beforehand. The open

coding resulted in an extensive list that was analyzed and categorized according to the design components of the spiderweb framework (Van den Akker, 2010). This framework shows all aspects that a curriculum designer should consider: rationale or vision, aims and objectives, content, learning activities, teacher roles, materials and resources, grouping, location, time, assessment.

(Preliminary) results

The presentation of the findings in the categories of the spiderweb framework makes the findings available for course design. We have further fleshed out the spiderweb framework (Van den Akker, 2010) for the target group for UCE: professionals functioning at a high-educated level. The findings show what makes UCE attractive to professionals. Furthermore, the findings show specific requirements and didactic points of attention for the learning of professionals that inform UCE design. On a number of points, the needs as articulated by participants and the needs as articulated by educators do not match. This asks for extra attention in the development and in the delivery process.

Conclusion

The findings provide UCE designers with input for the design components of a course. A broader interpretation of the spiderweb components is possible, because UCE design has more degrees of freedom than initial education. Furthermore, the findings show at which points we have to pay extra attention to making a good trade-off between participant preferences and what is the best didactic choice. Namely where the wishes of participants and insights of educators do not match. Also, at these points we have to pay extra attention to explaining didactic choices to participants.

References

- Van den Akker, Jan (2010). Curriculum design research. Tjeerd Plomp & Nienke Nieveen (ed.). An introduction to educational design research. Proceedings of the seminar conducted at the East China Normal University, Shanghai (PR China), November 23-26, 2007. SLO. 37-52.
- Ten Berge, H., Lam, I., Prins, F. & Bakker W. (in wording). Learning needs of professionals in university continuing education: a narrative review.
- Siddaway, A.P., Wood, A.M & Hedges, L.V. (2019). How to Do a Systematic Review: A Best Practice Guide for Conducting and Reporting Narrative Reviews, Meta-Analyses, and Meta-Syntheses. *Annual Review of Psychology*. 2019. 70:747–70. <https://doi.org/10.1146/annurev-psych-010418-102803>

IV. Pass-fail grading in a theoretical course

POSTER

<i>Author(s)</i>	<i>Lisa Levelt, Leslie van der Leer, Chris Harris, Robert Weijers, Reine van der Wal</i>	<i>Key-words:</i> <ul style="list-style-type: none">• <i>Assessment</i>
<i>University</i>	<i>Utrecht University</i>	
<i>Faculty</i>	<i>Social and Behavioural Sciences</i>	
<i>Department</i>	<i>Psychology</i>	

Introduction

Our traditional grading system often causes stress and impedes motivation and engagement. A pass-fail system might be a better alternative, because it offers more room for intrinsic motivation on the students' part and flexibility on the teachers' part. While this has been investigated in skill-oriented courses, the effect of such a grading system on theory-oriented courses is unknown

Aim and research question

Can we improve our teaching by placing less of an emphasis on grades?

Set-up and method

We compared the traditional grading system (2022-2023) with a pass-fail approach (2023-2024) in the psychology course "Interpersonal Processes" to see how this influenced learning, motivation, and engagement.

(Preliminary) results

We found no difference in the grades for the papers or active participation between cohorts (average \pm 7.5). No difference between cohorts was found on intrinsic, extrinsic, or amotivation, or for retention. Students indicated to experience less stress, more freedom, and to have learned more applied knowledge, but also deprioritized the course in favor of graded courses. Teachers had more freedom to focus on the learning process instead of grade justification. How much students learn is potentially determined more by the teaching and learning activities than by the grading system.

Conclusion

The pass-fail approach reduces pressure to perform for students, reduces the workload for teachers, and gives them more room to give feedback on the learning process instead of justifying final grades. It offers room for creativity and more experience-focused teaching and learning activities and intended learning outcomes (in line with the updated UU teaching model). Furthermore, it does not affect engagement and how much students learn objectively (in terms of motivation, knowledge transfer, and retention). On the flip side, the pass-fail approach also affects students' experience of engagement and how much they learn, where they deprioritize a pass/fail course. The approach is less known to students, which leads them to feel as if there is less freedom to excel and they find it more difficult to appraise their performance. It also requires a lot of time initially to switch to: rubrics have to be updated and teachers have to be calibrated so that they can provide students with good feedback. The intended learning outcomes (stronger focus on experiences, reflection, and applications), teaching and learning activities,

References

This study was set up in response to the educational innovation 'Blended Intervention' for both Veterinary students and Social Sciences students, see:

- Cerasoli, C. P., Nicklin, J. M., & Ford, M. T. (2014). Intrinsic motivation and extrinsic incentives jointly predict performance: a 40-year meta-analysis. *Psychological bulletin*, 140(4), 980-1008. <https://doi.org/10.1037/a0035661>
- Ferns, S., Hickey, R., & Williams, H. (2021). Ungrading, supporting our students through a pedagogy of care. *International Journal for Cross-Disciplinary Subjects in Education*, 12(2), 4500-4504. DOI: 10.20533/ijcdse.2042.6364.2021.0550
- Spring, L., Robillard, D., Gehlbach, L., & Moore Simas, T. A. (2011). Impact of pass/fail grading on medical students' well being and academic outcomes. *Medical education*, 45(9), 867-877. <https://doi.org/10.1111/j.1365-2923.2011.03989.x>
- Watterston, J., & Zhao, Y. (2023). Rethinking the time spent at school: Could flexibility improve engagement and performance for students and teachers?. *Prospects*, 1-8. <https://doi.org/10.1007/s11125-023-09638-9>
- White, C. B., & Fantone, J. C. (2010). Pass-fail grading: laying the foundation for self-regulated learning. *Advances in health sciences education*, 15, 469-477. <https://doi.org/10.1007/s10459-009-9211-1>

V. Evaluating the use of microlearning tool Redgrasp in Pharmacology teaching

POSTER

Authors *Rahul Pandit, Roma van Dijkhuizen*
University *Utrecht University*
Faculty *Medicine*
Department *Translational Neuroscience Pharmacology*

Key-words:
• *Teaching & Learning approaches*

Introduction

The Pharmacology and Pharmacotherapy (P&PT) track in the Utrecht University Medical Bachelor program prepares students for prescribing medication. P&PT teaching is integrated throughout the curriculum, with each course covering different aspects. However, due to minimal repetition, student's knowledge tends to decline by the time they transition to the Master's phase. Adding extra lessons to an already full curriculum is not feasible, and large-scale periodic testing (300+ students) is logistically challenging. Additionally, such tests do not accurately assess long-term retention, as students typically study for the exam rather than sustained learning. To address this, alternative low-threshold practice methods were explored. Given the proven benefits of spaced repetition for knowledge retention¹, the microlearning platform Redgrasp was introduced. Through Redgrasp, students receive questions to reinforce learning, while teachers gain insights into areas where students struggle, allowing them to adjust instruction. However, before broader implementation, it is essential to evaluate how students perceive and engage with this approach.

Aim and research question

The aim of this study is to evaluate the effectiveness of the microlearning web application Redgrasp in supporting knowledge retention through practice in P&PT topics within the bachelor's medical curriculum. The following questions were formulated:

- How do students perform in the various P&PT related topics?
- How do students perceive Redgrasp as a teaching tool for P&PT?

Set-up and method

Second and third year bachelor medical students received biweekly Redgrasp questions in their mailbox. At the end of the academic year, students received a questionnaire with closed and open-ended questions. Student's performance will be analysed per topic, to identify topics

VI. Use of generative AI in scientific writing in the bachelor Biology

POSTER

<i>Authors</i>	<i>Inge The, Ben Nelemans, Tessa Garenstroom</i>	<i>Key-words:</i>
<i>University</i>	<i>Utrecht University</i>	<ul style="list-style-type: none">• <i>Academic skills;</i>
<i>Faculty</i>	<i>Science</i>	<ul style="list-style-type: none">• <i>Generative AI;</i>
<i>Department</i>	<i>Biology</i>	<ul style="list-style-type: none">• <i>Educational Development</i>

Introduction

Students often struggle with structuring their writing logically to create a coherent and fluent text. Writing assignments can also induce anxiety and sometimes writer's block. As generative AI tools become more integrated into the writing process, we investigated if using AI as an exemplar could help students overcome their anxiety for writing and to identify which parts of the writing process they used AI for.

Aim and research question

This study aimed to investigate if the responsible use of AI tools can help students reduce stress, and to determine which stages of the writing process they find AI most useful for.

Set-up and method

We conducted the study in 2 course periods, during the 2023-2024 academic year: the first period included 145 students, and the fourth period 90 students. The students received an instruction of what is expected for the mini review, including guidance on literature search and academic writing. After this instruction, the students completed a Spielberger State-Trait Anxiety Inventory (STAI) to assess their concerns about the assignment (Marteau and Bekker (1992)) and to identify which part of the writing process worries them. After completion of this first survey, the students were informed that they can use generative AI, including an explanation of its advantages and limitations for academic writing. At the end of the lecture, students completed a second survey with the same STAI questions and additional questions about which aspects of the writing process they are most likely to use AI for. The students are instructed that they have to disclose in their mini review whether they had used AI. After the submission deadline, students who did not use AI were asked to explain why, while those who did use AI specified which parts of the writing process it assisted them with.

VII. Investigating the impact of inquiry-style tutorials on student engagement

POSTER

<i>Author(s)</i>	<i>Jennifer Casey, Ingmar Bruggeman, Matthias Schwalbe, Pieter Bruijninx</i>	<i>Key-words:</i> <ul style="list-style-type: none">• <i>Teaching & Learning approaches;</i>• <i>Student engagement;</i>• <i>Inquiry-based learning</i>
<i>University</i>	<i>Utrecht University</i>	
<i>Faculty</i>	<i>Science</i>	
<i>Department</i>	<i>Chemistry</i>	

Introduction

Inorganic and Solid-State Chemistry (SK-BANV13) is a second-year course designed for the chemistry bachelor's program. The course's tutorials previously consisted of students working on short problem sets and asking for help from TAs if needed. The problem sets focused on testing student knowledge, and students had the option to work with others or individually. Over the last few years, there has been a noticeable decline in tutorial attendance. Our goal was to incorporate new problem sets into the tutorials that were based on guided inquiry principles in hopes to improve engagement during tutorial.

Aim and research question

The goal of this project was to determine effective strategies that could be implemented in tutorial sessions to increase student engagement.

RQ1: Can incorporating new inquiry-style activities into tutorials result in higher student engagement relative to the traditional-style tutorials?

RQ2: What are student attitudes towards new inquiry-style tutorials relative to the traditional-style tutorials as determined from semi-structured interviews?

Set-up and method

The six inorganic chemistry tutorials were divided into three new-style and three traditional-style tutorials. Tutorial attendance was made mandatory to ensure a more representative dataset. Classroom engagement was measured using the Activity Engagement Survey, a 19-item survey designed to investigate behavioral, cognitive, emotional, and social engagement. [1][2] Students were invited to participate in 20-minute interviews that focused on student attitudes towards the two tutorial styles, specifically what aspects students considered beneficial and challenging. Students were also asked about the specific aspects of tutorials that motivated them to participate.

VIII. The hidden lessons of scientific writing: implicit notions relating to the nature of science

POSTER

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Key-words:

- Academic Skills;
- Scientific Writing

Introduction

An important aim of university education is that students learn what characterizes scientific research and scientific knowledge. It has not yet been extensively studied which views of the nature of science (NOS) university students develop during their university degree programs.^{1,2} More specifically, it is unknown what students implicitly learn about NOS (or epistemology) in research skills and scientific writing education.

Aim and research question

The aim of this study was to characterize what biomedical students implicitly learn about NOS when they learn to read and write scientific articles. Therefore, the research questions were: 1) which notions about NOS are implicitly conveyed through biomedical bachelor's students' scientific writing practices, and 2) how do these implicit notions relate to students' explicit views about NOS?

Set-up and method

I used discourse analysis and thematic analysis to characterize implicit notions conveyed through biomedical students' bachelor's theses. I conducted semi-structured interviews with students about scientific writing practices and NOS.

(Preliminary) results

Students' explicit views were partially consistent with the implicit notions conveyed through their writing practices. However, there were discrepancies as well and students sometimes struggled to make sense of scientific writing practices and to determine their own epistemological position. This was especially true when they tried to reconcile the tentative nature of science with its reliability and durability and when they tried to convey the right level of certainty in their claims (e.g., "the data show conclusion X" or "the data support conclusion

IX. Teachers' and students' perspectives on the usefulness of e-modules supporting academic skill development: focus group findings

POSTER

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Introduction

First-year psychology students at university often find it challenging to master academic skills, which however are relevant for future careers (Howard, 2012). In some cases, these academic skills can be referred to as research skills, as these include searching for and using literature, hypothesizing, operationalizing variables, and writing a discussion (Goldingay et al., 2014). More foundational skills, such as critical thinking, separating main ideas from secondary ideas, and argumentation, are required for sufficient mastery of academic skills (Ahuna & Tinnesz, 2006). In the (ba) psychology programme at Utrecht University (UU), practice of these skills primarily happens during assignments and in working groups, limiting the hours available for supervised practice. As a result, some students might feel they need more practice, or teachers think students need more practice. To offer additional practice without requiring teacher involvement, e-learning systems become relevant. By offering scaffolded practice without teacher involvement alongside the flexibility of self-paced content and context-independence, students can align learning with their needs and meets the demands of the program. Such an e-learning module was developed in an e-learning environment (i.e., in ULearning) for first year psychology students.

The content of the module comprises topics related to four major areas of psychology (presented between parentheses), namely (a) VR therapy for anxiety symptoms (clinical psychology), (b) attention whilst cycling (cognitive psychology), (c) psychological symptoms in youths (developmental psychology), and (d) bystander effect (social psychology). The scaffolds pertain to (a) moving from closed-end questions (e.g., multiple-choice questions) to (more) open-ended questions, and (b) progressing from verification feedback to self-assessment according to an expert answer. For the closed-end questions, two attempts will be offered and with the last attempt the correct answer will be presented.

Aim and research question

The current pilot study was part of a larger study that focused on effective additional voluntary scaffolded practice of academic skills. As a pilot study, before conducting a large-scale effect study, we organized focus group discussions with teachers (from within the first year of the ba psychology programme) and students (that have a mentor role in the first year of the ba psychology programme). The discussions revolved around the question how teachers on the one hand and students on the other hand experienced the e-module.

Set-up and method

The 60-90 minute focus group discussions took place in semester one in academic year 2024-2025 at Utrecht University with five second- or third-year students and two first-year teachers respectively. More focus groups with teachers will be planned. The students and teachers first completed the e-module. The focus groups followed an individualistic social psychology perspective (Ryan et al., 2014). They were audio-recorded and transcribed verbatim.

(Preliminary) results and Conclusion

Teachers, on the one hand, were able to identify the targeted academic skills in the e-module separately, and primarily emphasized the contribution of this extra practice to mastery of academic skills. Teachers did not express issues or obstacles with promoting the e-module to students, as additional voluntary scaffolded practice. The students on the other hand were unable to pinpoint the targeted skills in detail. Moreover, they mentioned obstacles such as time required to complete the case studies and a lack of transfer of practice from the case studies to the exams. It can be noted that the case studies focus on academic skills rather than content specific knowledge (the latter is the focus of the exams).

These differences in perspective—between teachers and students—emphasize the necessity of aligning the e-module with what is taught in the curriculum. Furthermore promotion or reference to the e-module has to come with sufficient instruction, emphasising this alignment. All in all the results show that such deployment of educational innovations requires both teacher and student input.

References

- Ahuna, K. H., & Tinnesz, C. G. (2006). *Methods of inquiry: Applied critical thinking* (2nd ed.). Dubuque, IA: Kendall/Hunt.
- Goldingay, S., Hitch, D., Ryan, J., Farrugia, D., Hosken, N., Lamaro Haintz, G., Nihill, C., & Macfarlane, S. (2014). 'The university didn't actually tell us this is what you have to do': Social inclusion through embedding of academic skills in first year professional courses. *International Journal of the First Year in Higher Education*, 5(1), 43-53.
- Howard, H. (2012). Looking to the future: Developing an academic skills strategy to ensure information literacy survives in a changing higher education world. *Journal of Information Literacy*, 6(1), 72-81.
- Ryan, K. E., Gandha, T., Culbertson, M. J., & Carlson, C. (2014). Focus group evidence: Implications for design and analysis. *American Journal of Evaluation*, 35(3), 328-345. <https://doi.org/10.1177/1098214013508300>

X. Creating a virtual fieldwork experience for oceanography

POSTER

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Introduction

Typical physical oceanography fieldwork involves boarding a research vessel and traveling to the open ocean for periods of up to weeks. Such scientific research expeditions are expensive, time-consuming, logistically challenging, and therefore not very accessible. Thus, we created a virtual fieldwork experience using the new VirtualShip Python package and accompanying lesson materials. Virtual fieldwork is a relatively new concept, often incorporating Virtual Reality, that has the potential to offer many benefits to students, such as being more inclusive, building student skills and confidence, and increasing engagement in the topic studied. The Virtual Ship Classroom was tested in two graduate courses.

Aim and research question

The aims of this study are to investigate if the Virtual Ship Classroom serves as an authentic learning environment that reflects real-world oceanographic research practices, and how it impacts students' learning outcomes and experiences.

Set-up and method

We present the first two cycles of a design-based research (DBR) study. So, before designing our fieldwork, we analyzed and identified gaps in student knowledge and skills and formulated intended learning outcomes in collaboration with instructors and oceanography experts. We designed the virtual fieldwork as an authentic learning environment with the objective of engaging students to increase their learning experience. We evaluated the virtual fieldwork in two graduate courses for physical oceanography following a mixed-methods approach. The data include interviews (with both students, instructors and teaching assistants), surveys, rubrics, and student notebooks, which are triangulated.

(Preliminary) results and conclusion

The findings from our evaluation indicate that the Virtual Ship Classroom can contribute to preparing students for physical oceanography expeditions in meaningful ways. The students reported high levels of engagement with the learning materials and increased learning gains.

XI. VR and gamification of the Virtual Ship Classroom

POSTER

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Introduction

Typical physical oceanography fieldwork involves boarding a research vessel and traveling to the open ocean for periods of up to weeks. Such scientific research expeditions are expensive, time-consuming, logistically challenging, and therefore not very accessible. Thus, we created a virtual fieldwork experience using the new VirtualShip Python package and accompanying lesson materials as the Virtual Ship Classroom. Virtual fieldwork is a relatively new concept, often incorporating Virtual Reality, that has the potential to offer many benefits to students, such as being more inclusive, building student skills and confidence, and increasing engagement in the topic studied. The increased sense of achievement, self-confidence, and self-efficacy in students confirmed that our Virtual Ship Classroom is an effective learning environment which we would like to expand.

Aim and research question

The aims of this project are to extend the Virtual Ship Classroom with:

- VR in the form of 360 videos
- More realistic scenarios

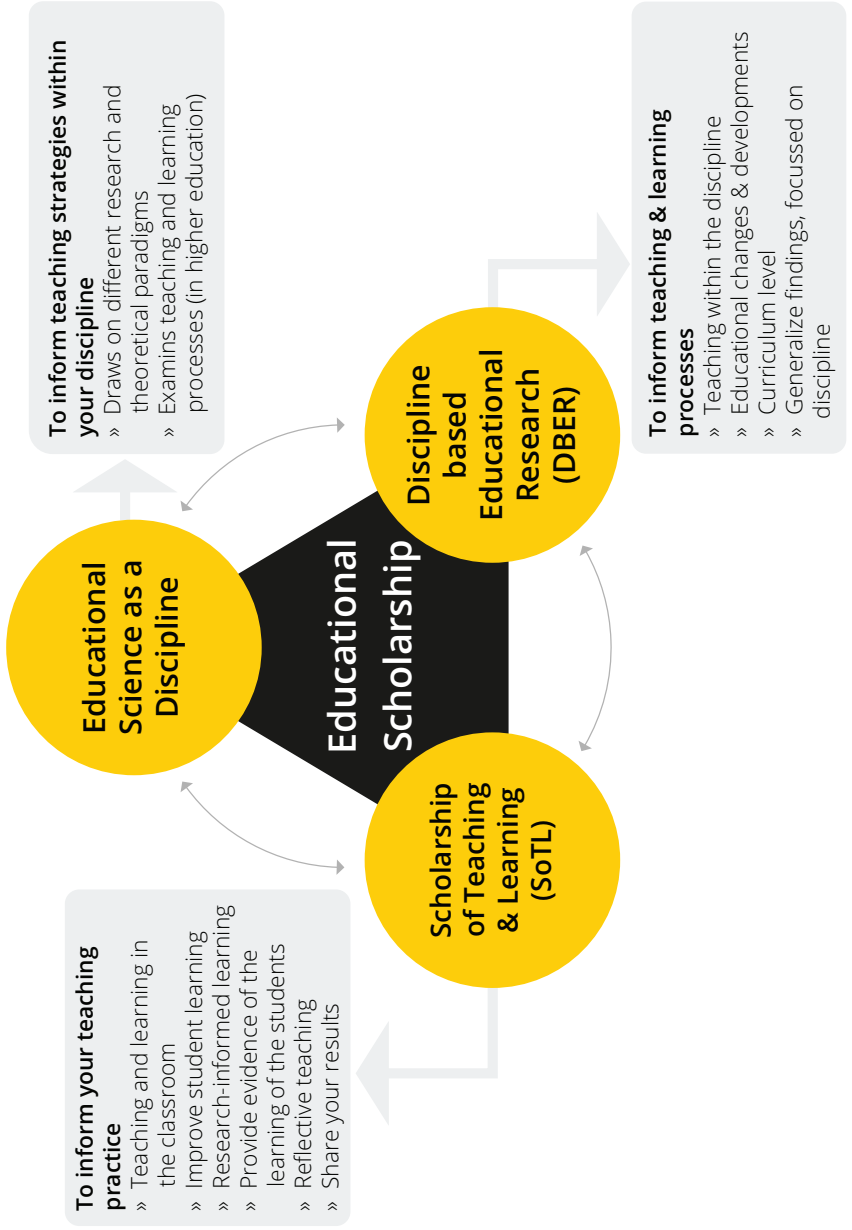
We will investigate the perceived authenticity of the VR experience and the impact on students' learning outcomes and experience.

Set-up and method

We create scenarios the students could encounter on fieldwork. We include these scenarios in the VirtualShip Python tool the students use during the Virtual Ship Classroom and create scripts for accompanying videos. Because cruise opportunities are limited, we are opportunistic in filming and editing and have to work with the material we can collect.

We conduct two pilot sessions using VR goggles in graduate courses for physical oceanography following a mixed-methods approach. The data include classroom observations, interviews (with both students, instructors and teaching assistants) and surveys.

Figure 1. Different approaches of Educational Scholarship



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